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SPECIAL FOOD FOR THE INTELLECT

Few dispute the fact that the intellect needs its special food in order to thrive. Among varieties of pabulum, books offer a choice form. They feed the informational reservoir from which spring informed fools as well as knowledgeable men. Books offer many other diversions or goodies, of course; many of us find that, through books, we prefer to communicate with dead authors than with live bores.

Edwin Di Cyan, Ph.D., and Daniel B. Stone, M.D.

In Brief

In The News

Richard D'Alonzo, MD, is the senior author of a paper entitled "Giant-Cell Reaction of Bone" which appeared in the September, 1972 issue of *The Journal of Bone and Joint Surgery.*

New Officers

New officers of the Kent County Medical Society are John B. Geissinger, MD, Secretary-Treasurer. Rhoslyn J. Bishoff, MD, succeeds Rafael A. Zaragoza, MD, on the Board of Trustees of the Medical Society of Delaware.

AAFP Fellows

The following Delaware physicians were installed as fellows in the American Academy of Family Physicians at their Annual Meeting in New York City last September: Rudolph H. Beckert, MD, of Bridgeville; Rhoslyn J. Bishoff, MD, Joseph S. McDaniel, MD, and Eugene Harold Mercer, MD, of Dover; Casimir Vileisis, MD, of Milford; Jerome J. Bredall, MD, of Newark; David Rich, MD, and Charles W. Wagner, MD, of New Castle; Joseph M. Barsky, MD, George J. Boines, MD, William H. Duncan, MD, Eugene J. Szatkowski, MD, Patricia Turner, MD, and Allen Curtis Wooden, MD, of Wilmington. Members eligible for this distinction include those who have attained diplomate status in the American Board of Family Practice and those who have completed 600 hours of approved continuing education study since becoming active members.

Pregnancy Guide Available

Copies of "A Counselor's Guide to Pregnancy and Abortion Services in and near Delaware" are available free from the Problem Pregnancy and Abortion Task Force, 825 Washington Street, Wilmington, 19801. Telephone (302) 655-7293. The booklet has been prepared for use by physicians as well as school nurses and counselors.

Speakers On "Ask The Doctor"

Speakers for January on the Tuesday radio program (11:05 a.m., WDEL) produced by the Medical Society of Delaware are: January 2, Emerson Y. Gledhill, MD, *Moles and Malignant Melanoma;* January 9, Allen Davies, MD, *Surgery for Coronary Artery Disease;* January 16, Robert Altschuler, MD, *Pulmonary Embolus;* January 23, James P. Aikins, MD, *The Total Scope of Anesthesia;* January 30, Scott W. Ankeny, MD, *Thyroid Disease.*

Medical Technology Training

The College of Medicine and Dentistry of New Jersey-New Jersey Medical School and its primary teaching hospital, Martland Hospital, are initiating a one-year training program in Medical Technology in conjunction with Newark State College and Seton Hall University. Students of these liberal arts colleges, who have backgrounds in the sciences, can apply for the program which would be substituted for their senior year. They would earn a B.S. degree from their college and certification in medical technology from the medical college in addition to eligibility for national certification from the American Society of Clinical Pathologists.

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SOME ASPECTS OF BREAST DISEASE

• Every dominant breast mass should NOT be biopsied. Indeed, biopsy may be more urgent when a breast mass is not palpable. Furthermore, most dominant masses are cystic and may be made to completely disappear with needle aspiration.

Willis P. Maier, M.D.

The great controversy today in breast surgery revolves around the proper operation for cancer. At one end of the spectrum is Urban, who feels that supra-radical mastectomy offers the best chance for cure, while at the other is Crile, who advocates simple mastectomy (or less). In the middle there is Bernard Fisher admitting he doesn't know the best operation for breast cancer and therefore pushing for meaningful prospective studies. Finally, there was a recent article entitled "The Superior Treatment for Carcinoma of the Breast" written by a pathologist, Dr. J. C. Smith, who said, in sum and substance, that there is no operation that is good nor is there any operation that is bad in treating this disease.

I prefer not to enter this field of combat, but instead would like to present some facets of breast disease, benign and malignant, that have been of interest to me.

In 1956 Doctor Caswell and Doctor Burnett, from Temple, first reported a series of six cases of women who had suffered from chronic recurrent breast abscesses over a period of from two to twenty years.[1] These recurrent pyogenic abscesses had been repeatedly incised and drained only to recur. In 1969 Doctor Caswell and I reported an additional nine cases of this not too uncommon condition.[2] As Doctor Caswell had originally suggested, inversion of the nipple appears to be the etiologic agent and repeated infection occurs unless the inversion is corrected. The periareolar abscess does not really involve breast tissue primarily, and is thus not like an infection which ascends through lactiferous ducts into breast glandular tissue. Periareolar abscesses are due to maceration, infection, and blockage of areolar glands which are held in the groove surrounding the inverted mamilla. A corollary of these circumstances may be found with fistula-in-ano which occurs when the anal crypts become involved with blockage and infection of the anal glands. Then the peri-anorectal abscess develops with subsequent anal fistula. If the fistulous tract is not excised, recurrent infection is inevitable.

The clinical picture associated with this

Dr. Maier is a Fellow of the American College of Surgeons and Associate Professor of Surgery, Temple University School of Medicine.

This paper was originally presented at a Surgical Conference, Wilmington Medical Center. March 27, 1971.

condition may be varied, and many women suspect that an underlying breast cancer is responsible. The degree of nipple inversion is often slight, and unless one carefully examines the "groove" for evidence of maceration or a sinus tract opening, the condition may go undiagnosed. Although repeated infection is the rule, we have had one patient who had recurrent retroareolar cysts with drainage of small amounts of sebaceous material and poor healing of the areolar incisions. A cure was finally accomplished when the slight inversion of her nipple was corrected. Another patient was suspected of having an inflammatory carcinoma of the breast with mammograms and thermograms being reported as "diagnostic." Extensive *peau d'orange* skin changes were noted, in addition to a small ulcerative area adjacent to the areola. Demonstration of an opening in the groove around the fixed inverted nipple led to the correct diagnosis. A probe may be passed from the periareolar opening through the sinus tract. With the probe in the fistula and a traction suture through the inverted mamilla, excision of the tract is performed. The area of excision includes a portion of the nipple adjacent to the opening. Closure results in correction of the inverted nipple.

Unfortunately, all breast pathology is not based on a mechanical factor which, when corrected, results in a cure. The treatment of carcinoma of the breast diagnosed during pregnancy or lactation has been, to say the least, perplexing. The influence of pregnancy on the growth and spread of malignant breast tissue, if indeed there is an influence, is poorly understood. The certain knowledge of the rarity of this condition — one tenth of one percent of all breast cancers — is no consolation when faced with a young woman afflicted by this disease.

The decision as to whether or not to biopsy a mass in the breast during pregnancy or lactation has caused concern. Should radical mastectomy be performed if the lesion is malignant? Should abortion and oophorectomy be an integral part of the treatment of the patient with breast cancer in pregnancy? Is the situation hopeless no matter what is done?

In 1896, Halsted performed a radical mastectomy for adenocarcinoma of the breast, on a lactating woman and the patient was alive and well more than 30 years later. Bloodgood, in an introduction to a paper by Kilgore in 1929, recounted this case and also pointed out the small risk to the fetus from breast surgery during pregnancy. He dispelled the belief that a persistent milk fistula would develop from incision into the lactating breast. Even in the early 1900's it was stressed that the pregnant woman with breast pathology should be treated just as if she were not pregnant. Kilgore's report indicated a five-year survival of 70 percent with surgery in lactating females with breast malignancy when axillary nodes were not involved. However, the figure fell to 11.5 percent when axillary metastasis had occurred.

In a paper presented by Haagensen and Stout in 1943 the stigma of "categorically inoperable" was placed upon the pregnant or lactating woman who developed breast cancer. The impact of this dismal account concerning the results in 20 women who developed breast cancer while pregnant or lactating continues to be felt despite numerous reports to the contrary. This category of inoperability was deleted from Haagensen's list at a later date, but the harm had been done. White, Lewison, Rosemond, and others have since reported encouraging results in the treatment of breast cancer in pregnancy, but the feeling of hopelessness still persists in many areas.

As in the nonpregnant woman, prime responsibility for detection of tumors rests with the patient who witnesses the day-to-day change of her breasts during pregnancy and lactation. She should be alerted to point out any change to her physician at the time of routine prenatal and postpartum examinations. The nursing mother may best examine her own breast when it is just emptied of milk. Routine monthly self-examination should be encouraged.

Obstetricians share the burden of responsibility for the diagnosis of breast cancer in the pregnant woman. Routine examination of the breasts should be a part of initial and

Treatment	Survival According to Stage at Time of Treatment		Survival
Radical mastectomy	No nodes	26/34	76.5%
Radical mastectomy	Nodes	11/37	30%
2 simple, 3 biopsy	Widespread disease	0/5	
2 simple, 1 biopsy	Stage?	2/3	
	Over-all	39/79	49%

TABLE 1

Carcinoma of the Breast During Pregnancy and Within Six Months of Delivery in 79 Patients

subsequent prenatal visits. Upon discovery of a dominant mass by the patient or her physician, proof must be obtained without delay to rule out cancer. Benign breast masses, especially fibroadenomas, far outnumber carcinoma in the pregnant and lactating woman. Nevertheless, if the rare cancer patient is to be salvaged, immediate surgery is mandatory. The "wait-and-see-what-happens" attitude adopted by some when a breast mass is discovered at this crucial time is incomprehensible. If placental hormones do indeed adversely affect the course of certain breast cancer, certainly there is no instance of malignancy in which early diagnosis and treatment make more sense.

Slight nipple discharge during pregnancy is common. The appearance of a small amount of blood in the cloudy and somewhat milky discharge is no cause for alarm in the absence of a dominant mass. Engorgement of the breast with blood and the hyperplastic changes occurring in the ductal system may produce a small amount of bloody discharge in the otherwise normal lactating breast. This does not make biopsy mandatory, but careful follow-up should be the rule.

Of the 85 patients who developed breast cancer while pregnant or within six months of having been pregnant in Philadelphia County during the years 1950 to 1964, 79 were absolute five-year survivors, ie, follow-up was achieved to five years or to time of death. The average age was 34 years (range, 20 to 49); 67 percent were white and 33 percent were non-white. Overall survival is presented in Table I. The survival among 71 patients treated with radical mastectomy was 52 percent. Table II illustrates the fate of the 20 patients who underwent radical mastectomy while actually pregnant. Table III shows the outcome in the 51 patients treated by radical mastectomy in the early post-pregnancy period.

A surprising difference in survival related to race when lymph nodes were involved is shown in Table IV. Factors such as delay in diagnosis, extent of axillary involvement, and socio-economic grouping were not signific-

INCIDENCE AND FIVE-YEAR SURVIVAL

	Negative Nodes	Positive Nodes	Total
Incidence	9/20 (45%)	11/20 (55%)	20/20 (100%)
5-year survival	7/9 (78%)	4/11 (36%)	11/20 (55%)

*Includes nine patients who had therapeutic abortion as part of their treatment.

TABLE 2

Frequency of Lymph Node Involvement in Patients with Carcinoma of the Breast Managed by Radical Mastectomy During Pregnancy*

INCIDENCE AND FIVE-YEAR SURVIVAL

	Negative Nodes	Positive Nodes	Total
Incidence	25/51 (49%)	26/51 (51%)	51/51 (100%)
5-year survival	19/25 (76%)	7/26 (27%)	26/51 (51%)

*Includes nine patients who had therapeutic abortion as part of their treatment.

TABLE 3

Frequency of Lymph Node Involvement in Patients with Carcinoma of the Breast Managed by Radical Mastectomy After Pregnancy.*

antly different in the two groups. It appears that once axillary metastases occur in the pregnant or lactating black female, the prognosis, for some obscure reason, is extremely poor.

A comparison with non-pregnant females less than 40 years of age is given in Table V. There was no beneficial effect from therapeutic abortion or castration evident in these cases.

Another point much discussed in this regard is whether or not a young woman who has had a radical mastectomy should be allowed to have a subsequent pregnancy. Cooper et al followed the survivors mentioned in this study and found that 40 patients were eligible for five-year survival studies. It was concluded that there was no adverse effect on patients without nodal involvement who later became pregnant, and that there was no reason for a patient with a stage I lesion to avoid subsequent pregnancies.

Whether pregnancy has a real influence on the growth and spread of a particular breast cancer remains in doubt. There is no doubt, however, that breast cancer occurring in the pregnant woman is a complicated affair, which should not be further compromised by treating her differently from her nonpregnant counterpart.

The management of patients with nipple discharge has presented problems over the years. This is especially true if no mass is palpable in the involved breast. When a mass is palpable, the discharge is virtually ignored and the mass treated primarily. As mentioned previously, a small amount of bloody nipple discharge during pregnancy with no palpable

Over-all 85 patients		5-year survival
Caucasians	57 (67%)	
Negroes	28 (33%)	
Negroes	25 patients	
	Survivors 11/25 (44%)	
	No nodes, survivors	8/10 (80%)
	Nodes, survivors	1/12 (8%)
	Stage, unknown, survivors	2/3
Caucasians	54 patients	
	Survivors 28/54 (50%)	
	No nodes, survivors	18/24 (75%)
	Nodes, survivors	10/25 (40%)
	Stage unknown	0/1
	Stage III	0/4

TABLE 4

Carcinoma of the Breast During Pregnancy and Within Six Months of Delivery in 85 Patients.

	Nonpregnant (647 Cases)	Pregnant (79 Cases)
Incidence		
No nodes	45%	47%
Nodes	47%	43%
Widespread or unknown stage	8%	10%
5-year survival		
Over-all	61%	49%
No nodes	80%	76.5%
Nodes	48%	30%

TABLE 5

Comparison of Pregnant and Nonpregnant Women Under 40 with Breast Cancer

mass does not require anything more than follow-up. Greenish or serous discharge coming from several nipple ducts in a woman less than 50 years of age is not unusual with fibrocystic disease and again, unless a dominant mass is present, should probably be left alone. Nipple discharge, either serous or bloody, which arises from an identifiable nipple duct without a discernible mass, should have an exploration to explain the discharge. In patients less than 50 years of age the incidence of carcinoma as the etiology of the discharge is less than five percent, while in patients over 50 the incidence of carcinoma is around 30 percent. In the younger age groups in which cystic disease is common, the usual etiologic agents are intraductal papillomas or papillomatosis. As with breast cancer in general, the incidence of breast cancer causing the discharge increases with advancing age. One interesting finding reported by Seltzer et al in a study related to nipple discharge and concomitant breast masses, was that the incidence of carcinoma was the same when a mass was present whether or not the mass was accompanied by nipple discharge.[3]

The recommended operative approach in the patients without a mass varies from dissection of the involved duct to simple mastectomy (especially in the older age groups). Our present feeling is that excision and tracing out the duct usually will reveal the lesion; if not, a wedge resection of the appropriate breast lobule should be done. If no satisfactory reason for the discharge can be found, we have not performed simple mastectomy, but have instead carefully followed the small number of patients in this category. I am not aware of the later appearance of a carcinoma in such a patient at our institution.

Paget's disease of the nipple offers an opportunity for early diagnosis unparalleled by any other breast cancer. Despite this, the overall survival rates are depressingly low — 52 percent for five years. If the diagnosis can be made before lymph nodes are involved, then survival rates are in the range of 95 percent. Survival rate is worse when there is a palpable carcinoma associated with the disease. In an analysis of 137 patients with Paget's disease of the breast we found that with or without a mass, when lymph nodes were involved the survival rates were low.[4]

The diagnosis of this variety of breast cancer is easy if one views any nipple changes with suspicion. A unilateral itchy vescular rash involving the nipple or areolar and not part of a generalized rash is Paget's until proven otherwise. Here again if a breast mass is palpable, the nipple changes are ignored and the mass treated as any other breast mass.

In comparing Paget's with other breast cancers, it was found that the peak incidence is in the 60-69 age group (20 years older than ordinary cancer); that premenopausal women (there were 19 in this category) had a poorer survival rate than older women; and of the 10 with positive nodes none survived five years. Delay in diagnosis did not adversely affect survival in our series, and there was no proof that radical mastectomy was beneficial in our series.

It was apparent that of all factors considered as affecting prognosis, the presence or absence of lymph node involvement is the most significant.

The dictum so often repeated that *every dominant breast mass must be biopsied* has been very helpful over the years in keeping physicians aware of the need for removal of potentially malignant lesions. The problem of simple cysts of the breast, however, has led many to revise the dictum to *every dominant breast mass that cannot be made to disappear by needle aspiration must be biopsied.* This appears to be a simple, safe, and sane way of diagnosing solid breast masses and treating simple cysts of the breast. Needle aspiration does not mean needle biopsy, which is entirely different and designed to diagnose breast cancer from the tiny bits of tissue removed. Certain rules must be followed when one uses needle aspiration as a diagnostic and therapeutic tool: 1) The mass must *completely* disappear. 2) If the cyst recurs or does not disappear, it *must* be biopsied. 3) Follow-up examination in two weeks must confirm the continued absence of the mass.

The color of the fluid aspirated varies from clear to black and has no significance. Bloody fluid is cause for suspicion of a neoplastic cyst. In this event the cyst will recur in a period of several days. The amount of fluid is related to the size of the cyst and is otherwise not important.

When a solid mass is encountered, then arrangements are made for biopsy and subsequent treatment if required. We no not advocate attempting to aspirate obvious carcinomas, nor do we believe that undue manipulation of an obvious cancer is indicated. Of 69 patients who underwent needle aspiration attempt on lesions that proved to be carcinoma, the five-year survival after radical mastectomy was 89 percent. This would seem to indicate that no harmful effect resulted from putting a needle into the cancer.

The technique of needle aspiration is simple and early learned. As long as the alternative to needle aspiration is either surgery for each cyst as it appears or a "wait-and-see" attitude, then in our opinion there is no question as to the value and usefulness of needle aspiration.

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Additional References on Request

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HONOR CEREMONY

Dr. and Mrs. H. Thomas McGuire are shown with Dr. Herbert M. Baganz, President of the Medical Society, at the Board of Trustees Meeting on January 13, 1972. The clock was presented to Dr. McGuire in recognition of his 18 years of service as Delaware's AMA Delegate.

PENETRATING ARROW WOUND OF THE CHEST

• During the last two decades the incidence of penetrating thoracic injuries has increased. In the civilian population, surgeons see many gunshot and stab wounds of the chest. The following report is that of a rare type of penetrating chest wound, suffered from a hunting arrow.

Lawrence A. Virgilio, M.D.
Edgardo Dujon, M.D.
Mustafa Oz, M.D.

Case Report

J. A. was a 43-year-old Negro male who was brought to the accident ward in shock due to a bleeding chest wound. No history could be obtained from the patient. The blood pressure was 80/50, and the pulse 110, and the patient was slightly cyanotic. There was a 1½ inch stab wound of the right anterior chest just lateral to the xyphoid process in the 5th intracostal space. There were dullness to percussion and decreased breath sounds on the right side. A chest tube was inserted and drained 700 cc of blood. Chest x-ray was obtained. (Figure 1)

I. V. fluids and blood were administered and the patient was transferred to the O.R. for a right thoracotomy. The arrow had transected the right internal mammary vessels, the lower lobe of the right lung, the dome of the diaphragm, and the right lobe of the liver. The missile was removed, the internal mammary vessels were ligated, and an anterior segment of the right lower lobe resected. Glisson's capsule and the laceration in the diaphragm were sutured. The patient received two units of blood. His postoperative course was uncomplicated. The chest tube was removed after 48 hours, and he was discharged nine days later. Postoperative chest x-ray was eventually clear.

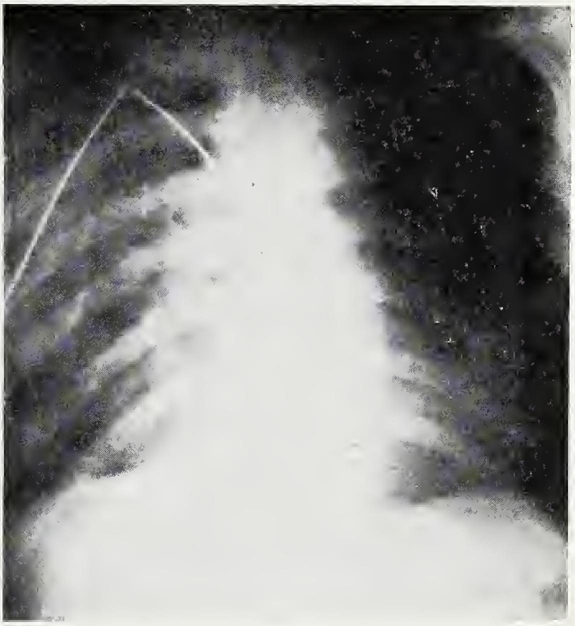

Figure 1
A chest tube (containing a radio-opaque marking thread) is in place in the right thoracic cavity. There is a discrepancy in lucency between the two lung fields; 700 cc of blood was drained through the tube before the film was taken.

Summary

Although archery as a target sport and for hunting is increasingly popular, review of the surgical literature over the past 20 years reveals no report of hunting arrow injuries to the chest. This case report describes a serious arrow wound of the chest with recovery after appropriate surgical management.

Dr. Virgilio, formerly an intern in surgery at the Wilmington Medical Center, is now a first-year pathology resident at Duke University Medical Center.

Dr. Dujon is Resident in Surgery, and Dr. Oz is Attending Thoracic Surgeon, Wilmington Medical Center.

Highlights

MECHANISMS OF THROMBOCYTOPENIA

Scott Murphy, M.D., *Assistant Professor of Medicine, University of Pennsylvania. Presented to the Tuesday Morning Medical Conference, WMC, April 27, 1971.*

The ability to label platelets with radioactive chromium (^{51}Cr), and then to follow the fate of the chromium after the platelets are transfused has contributed much to the knowledge of the mechanisms of platelet physiology in health and disease.

When normal, autologous (ie, from the same person) platelets are labeled and retransfused after labeling, approximately two-thirds of the radioactivity appears in the circulating blood volume. The subsequent disappearance of radioactivity over the next days is related to the platelet lifespan and is 8 to 10 days in normal controls. Experiments of this type have now conclusively shown that the initial recovery of transfused platelets varies inversely with the size of the spleen; the larger the spleen from whatever cause, the greater the percentage of labeled platelets which reside in a hypothesized splenic platelet pool and not in the circulating blood volume. The splenic platelet are viable and in free interchange with circulating platelets.

It is now possible to classify thrombocytopenic states according to the immediate appearance and subsequent disappearance of labeled platelets following transfusion:

1. Normal platelet recovery and lifespan; deficiency of platelet production. This is the situation which pertains with acute leukemia, aplastic anemia, and overdosage with marrow toxic chemotherapeutic agents. Logical therapy (other than withdrawal of the offending agent and supportive treatments) is platelet transfusion.

2. Decreased platelet lifespan and normal or increased production. This disorder may be due to platelet destruction by extrinsic circulating anti-platelet factors such as occurs with Idiopathic Thrombocytopenic Purpura, certain drug sensitivities, Systemic Lupus Erythematosis, and some of the lymphomas. It may also occur with consumptive disease such as DIC (disseminated intervascular coagulation) and with microangiopathies. Intrinsic platelet factors responsible for decreased platelet lifespan are seen in hereditary thrombocytopenias such as the Wiskott-Aldrich Syndrome.

3. Normal platelet lifespan; normal platelet production; reduced immediate recovery. This is the situation which pertains when an enlarged spleen sequesters an increased percentage of the total body platelet mass. It is logically treated with removal of the spleen.

It is now twenty years since Harrington performed his classic experiments which demonstrated a plasma factor in Idiopathic Thrombocytopenic Purpura (ITP), which is responsible for the thrombocytopenia in patients with ITP and which will, when transfused into a normal subject, produce thrombocytopenia. This factor has now conclusively been demonstrated to be a 7S gamma globulin, and has characteristics of an antibody in that it affixes to platelets without lysing them. In the majority of patients, platelets so coated are destroyed only by the spleen; after splenectomy the titer of the anti-platelet factor is unchanged, but the platelet count increases to normal or even supernormal levels. In the minority of patients, the coated platelets are destroyed in the liver as well and splenectomy is not curative.

Currently research efforts in several institutions are being directed towards the more specific *in vitro* identification of this anti-platelet factor. Improved methods for the separation by dialysis of the particular gamma-globulin factor involved and its detection by a platelet-injury assay give encouragement of early fulfillment of this goal.

ALCOHOL —

Man and Science

Marvin A. Block, M.D., *Assistant Clinical Professor of Medicine, State University of New York at Buffalo School of Medicine; Vice-President, American Medical Society on Alcoholism; Committee on Alcoholism and Drug Dependence.*

For centuries, man has resorted to drugs of various kinds — narcotics, stimulants, and intoxicants — to relieve pain, assuage sorrow, minimize anxiety and discomfort, or provide him with sheer enjoyment. Through experience with certain plants and herbs, when specially prepared, effects were noted which were attributed to supernatural powers and to the kind of magic they were imagined to exercise.

Alcoholic beverages, in all probability, were part of man's diet even before the opiates. Natural fermentation of plants and fruit juices resulted in a product which gave pleasurable sensations to those who partook of it. The process was cultivated and refined by countless generations to follow and eventually gave rise to a flourishing industry. Today the entire world makes use of alcohol in one form or another. In that almost any type of plant or cereal can be fermented and later distilled, alcohol is the most common of all the drugs we use.

Ours is a drug-oriented society — largely because of alcohol. This drug is part of our lives and apparently always has been.

Because of its social acceptance, alcohol is rarely thought of as a drug. But a drug it is, in scientific fact. It belongs in the category of anesthetics and embodies the same risks of dangerous consequences, when abused, as do all other drugs. Although little known or largely ignored by those of today who use it as a beverage, alcohol's anesthetic properties have a long history of practical utilization. Prior to the discovery of the newer and more efficient anesthetics, alcohol was wittingly employed as an hypnotic, sedative, and narcotic aid to surgery.

The same stages of induction, excitement, somnolence, deep anesthesia, and eventually paralysis are effectuated by alcohol quite as they are by every other such agent, except that the narcosis deepens far more slowly. For this reason, alcohol has been abandoned as a tool of anesthesiology.

In smaller doses, alcohol acts as a sedative. By its action on the brain, it reduces awareness of pain and discomfort, allays fears, calms anxieties, and modifies perception. As the dose increases, the hypnotic effect is manifest, and somnolence develops. If more of the drug is consumed, its anesthetic impacts are registered, with deep sleep and unconsciousness the eventual consequence. If intake is continued over an extended period, complete paralysis of the respiratory and circulatory centers occurs; and, if persisted in long enough, death will be the ultimate result.

Although ethanol, a provider of calories, is a ready source of energy, it cannot be regarded as a true food, since it contains neither fats, carbohydrates, nor proteins. Neither does it contain minerals or vitamins, other materials equally necessary for building body tissue. Alcohol, readily absorbed, produces heat and by this token must be viewed as a source of energy. It requires no digestion and in pure form is absorbed into the blood stream through the walls of the stomach directly after ingestion, thus making the energy it produces immediately available. So viewed, it may be said to qualify as a food, but when the yardstick is nutrition and the other elements mentioned are absent, pure alcohol cannot be so considered.

The staging effect of alcohol can be modified in various ways. Diluting it with water will retard its absorption and so delay its final effect. Taking alcohol along with foods, particularly fats and proteins, will further slacken absorption from the stomach and again retard its action. In those beverages which contain more water and other nutritional elements, as do wine and beer, the rate of absorption is less precipitate than it is when alcohol is taken in the form of high-proof liquor.

Adapted from a presentation to the Delaware Academy of General Practice, March 27, 1971. Portions of this paper were previously published in the New York State Journal of Medicine, November 1, 1970.

Alcohol is oxidized in the liver. The breakdown passes through several stages, the first of which is acetaldehyde, a highly toxic substance, which rapidly goes into acetic acid. Although acetaldehyde is far more toxic than alcohol itself, its transitory stage in metabolism is so brief that its toxic effects are rarely noted. After passing into the acetic acid stage, the alcohol is then oxidized into carbon dioxide and water. Should the rate of metabolism be suspended at the acetaldehyde level, as can be caused by the administration of a deterrent drug, the toxic effects of the acetaldehyde obtain, and severe clinical signs occur. This happens with the administration of disulfiram, for example. The enzyme action of this drug, by suspending metabolism at the acetaldehyde level, produces a highly toxic condition which manifests itself in several clinical signs, such as increased blood pressure, dilatation of superficial vessels, nausea, vomiting and retching over an extended period, and in many cases, eventual unconsciousness.

Oxidation of alcohol produces about 7 calories of energy per gram. The rate of metabolism in the human body is usually constant. It cannot, as a rule, be either increased or decreased. Certain measures may to a degree counteract the subjective effect of the drug, but they do not alter the metabolic rate. Thus, black coffee given to an intoxicated person may stimulate his central nervous system, but it does not increase the rate at which the alcohol in his system is metabolized. The caffeine in the coffee may counteract the sedating effects of the alcohol, but it does not lower the concentration of the alcohol in his blood any more rapidly than would occur without the caffeine.

The effects of alcohol, as stated, vary with the drug's degree of concentration in the blood. In the average man, a concentration of 0.03 per cent or less seems to have but a fractional effect on his behavior or his judgment. At 0.05 per cent, however, there is a slowing of his responses, reaction time is reduced, and such skills as are required to drive a car or engage in athletic sports show definite signs of impairment. Although a driver with alcohol in the blood at that concentration may feel himself to be a better man at the wheel, actually his driving falls below par as noted by objective observers. As the concentration rises above 0.05 per cent, the decline in efficiency is even more conspicuous. In a 150-pound man 2 ounces of whiskey or two bottles of beer will produce a 0.05 per cent concentration. As the alcohol level rises, he may become loud and boisterous. At 0.10 per cent, which in the same person will be produced by 4 ounces of whiskey or four bottles of beer, he may well become incoherent and fumbling and no longer able to execute delicate requirements. As the concentration rises still further, obvious drunkenness is demonstrated.

Among excessive drinkers and alcoholic addicts, cirrhosis of the liver occurs eight times as frequently as among those who drink in moderation or not at all. Although this condition may develop in nondrinkers as a result of other causes, by far the greatest number of cases can be attributed to the excessive use of alcohol.

Although the cause-and-effect relationship between alcohol and cirrhosis of the liver is no longer as firmly fixed as for many years it was considered to be, a close connection is nevertheless statistically revealed. Of all recorded cases of cirrhosis of the liver, confirmed alcoholism appears to be concomitant in the highest percentage. Moreover, scientific exploration of the subject has determined that, whether or not cirrhosis is the ultimate damaging result, alcohol has a definite effect on the liver. Ingestion of alcohol in any amount by the average individual will produce fatty changes in that organ which will eventually cause its enlargement. In time, if the use of alcohol is continued, the liver will become larger and larger as more and more fatty changes are engendered. Once drinking is discontinued, however, the process is reversed, and the liver becomes smaller and smaller as the fatty cells revert to their normal state. This salutary effect is hastened by a wholesome diet and the presence of proper nutritional elements, particularly protein.

In the alcohol addict, respiratory diseases have been notoriously prevalent. About 25 per cent of all alcoholic persons develop tuberculosis, and, conversely, about 25 per cent of all patients with tuberculosis are alcoholic. Except for the patients with tuberculosis, however, most of the respiratory diseases which are encountered in alcohol addicts are not necessarily due to the alcohol. For the most part, these diseases become serious in alcoholic patients because their general condition after years of excessive drinking have so debilitated them and so lowered their resistance that the infections and bacteria normally present in every person's lungs have a greater opportunity ot cause a serious infection. A second factor must be taken into consideration here: Most alcoholic persons, and for that matter, most heavy drinkers, are also excessive smokers, and the respiratory problems which develop in these individuals are, in all likelihood, the result of excessive smoking of cigarets rather than of excessive drinking.

As medical investigation of the use of alcohol progresses, more and more effects of its substance on the pancreas are noted. Among alcoholic patients it is not unusual to see a pancreatitis of the chronic low-grade variety, and the incidence of diabetes among alcohol addicts appears to be increasing. Whether or not this is the direct result of the alcohol on the pancreas, or whether it is coincident with the increased incidence of diabetes through improved methods of detection, it is impossible to say.

More recently, the effect of alcohol on the heart has been emphasized. It has now been determined that most of the vessels which are dilated by alcohol are the superficial ones, and that the coronary vessels of the heart are rarely so affected. On the other hand, it is recognized that there is an increase in the heart rate as the result of alcohol ingestion. This adds to the work load of the heart without increasing the circulation to that organ — with oxygen deficiency as a possible result. Over long periods, alcohol ingestion may also affect the heart muscle itself. Recent investigations have disclosed that in alcoholic patients there are often cardiographic changes in the heart tracings, and that there is a distinct disadvantage in excessive drinking for many people with heart conditions. Likewise noted in certain alcoholic patients has been a kind of cirrhotic change in the heart muscle. Extrasystoles are common as the result of heavy drinking, and, while these in themselves bear no particular clinical significance, they do nonetheless give evidence of toxic effects on the heart. Other irregularities of the heart beat can be aggravated by such toxicity.

Primary myocardial disease, present so often in alcoholic patients, is demonstrated microscopically by a conglomeration of the lipids of the tissues. These are similar to the cirrhotic changes observed in the liver.

The effect on the nerve tissues of the body by excessive use of alcohol is well known. These may not necessarily be due to the alcohol itself but rather, in many cases, to the lack of nutritional elements as the result of uncontrolled drinking. It is commonly recognized that alcohol addicts neglect their diets and often eat little or nothing at all when drinking. Hence, all of the required elements of nutrition are diminished, if not totally absent. As a consequence of such malnutrition, such diseases as Korsakoff's syndrome, Wernicke's disease, polyneuritis, and all of the other conditions resulting from nutritional deficiency occur commonly among alcoholic persons.

Seventy-one per cent of our adult population drink. Seventy-nine per cent of our men and 63 per cent of our women drink. Seventy-nine per cent of the age group between twenty-one and twenty-nine drink; of the age group between thirty and forty-nine, 76 per cent drink; and of persons age fifty and over, 61 per cent drink. Of the religious denominations, 90 per cent of the Jewish people drink; 89 per cent of Catholics drink; 68 per cent of Protestants drink. Of the latter group, 47 per cent of Baptists, 61 per cent of Methodists, and 85 per cent of Lutherans drink. By economic groupings: 86 per cent of our prosperous people drink; 66 per cent of our average-income people drink; and 54 per cent of our less affluent people drink. Classified according to educational levels: 80 per cent of our college people drink; 75 per cent of our high-school graduates drink; and among those with less than high-school education 53 per cent drink!

Total American drinkers is 90 million.

It should be remembered that no sharp line of demarcation separates the social drinker from the alcohol addict. Rather, there is a hazy area across which the drinker may float from one classification into the other. Only the expert, by means of close interrogation and detailed history taking, can detect significant changes in drinking patterns.

For those persons whose psychologic background is conducive to drug dependence as an escape from the problems of life, programs of re-education must be instituted to teach them to manage their frustrations and disappointments. Preventive steps along these lines must be taken with children in their regular educational forums to preclude their resorting to drugs.

* * *

Books

- **Physician reviews of books of interest to other physicians are welcomed.**

G. P. by *William A. Block*, Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1971.

G.P., a novel by William A. Block, represents a week "in your average general practice," that of Johnny Shoemaker, M.D.

Dr. Shoemaker sees thirty office patients a morning, five mornings a week.

He sees fifteen office patients at least three evenings per week.

The good doctor has more difficulty treating his children's aches and pains (crying out for any attention?) than the mortal ills of his "real" patients.

But then who else in "your average general practice" in one week has: a menopausal wife who, if definitely pregnant for the sixth time, might well be suicidal; a million dollar malpractice suit; a psychotic office nurse who shoots her husband while high on amphetamines; a personal psychotic break wherein the doctor's dead brother, who had tragically expired after his own internship, communicates daily with Dr. Johnny; the black star of the high school football team dies after the big game; a date with a buxom patient perhaps clad only in mink; a tryst in a hospital linen closet with an old internship flame; and finally a 1963 Buick that stalls every ten miles. (Of course, all the other cars in the hospital parking lot are of Cadillac-Lincoln caliber.)

Does Johnny Shoemaker, M.D., shuck it all for a cushy clinic job?

He'd be bored stiff!

The author, I believe, has condensed twelve years of practice (he is in general practice, the cover blurb reports) into one near-calamitous week. Although he doth protest too much about the selfless job old Johnny does, the author does establish the frustrations of his work and some of the satisfactions. The *deus ex machina* ending is a *deus ex machina* ending. And the things happening behind those closed examining room doors are the thing the best-seller reader wants to believe are happening.

JOSEPH A. GLICK, M.D.

THE MEDICAL CLIMATE OF TEPOZTLAN

OSCAR LEWIS

The trial clinic* on the central plaza of Tepoztlán was not introduced into a medical vacuum. On the contrary, it found itself within a milieu of well-established medical beliefs and theories of disease and within a network of traditional practitioners whose curative techniques reflected these beliefs and theories.

There are three kinds of health practitioners in Tepoztlán — *curanderos, mágicos,* and "el doctor." *Curanderos* are the most numerour and primarily women. They are visited most frequently and charge small fees of twenty-five or fifty centavos. There are two *mágicos,* men who may use the herb remedies of the women but also resort to spiritualism and magic and are feared for their great power. Their fees are higher, ranging between one and ten pesos. The *curanderos* and *mágicos* are, of course, Tepoztecans. However, "el doctor" is an outsider who has taken up residence in the village. He poses as a doctor but has no professional training. He charges fees as high as one hundred pesos. *Curanderos* are sometimes paid in corn or other produce. This is one of the very few remnants of the old barter economy and indicates how closely the *curandero* system and the native economy were integrated. With the increasing dominance of a money economy, there is now more cash available, and some families visit the doctors in Cuernavaca.

Editor's Note: Dr. Lewis, who died in December 1970, wrote to us in regard to the above excerpts, "There have been many changes in Tepoztlán since 1943 when I wrote that essay. The town now has a small clinic and hospital and a few private doctors. However, there are still many native curanderos who practice the indigenous folk medicine."

There was no resident doctor in 1934, but the villagers had had some previous experience with doctors and modern medicine. Two young Mexican doctors had spent six months each in the village in fulfillment of their training requirements for the doctor's degree. Public health teams had visited the village frequently since 1936 to administer injections against infectious diseases; some Tepoztecans had visited the federal Public Health Station in nearby Cuernavaca; and a few of the local midwives had received some instruction from public health nurses.

For the majority of people, however, indigenous folk medicine as practiced by *curanderos* is still the dominant form of medicine. Thus, the traditional remedies for "evil eye" and "fright" involve a combination of folk beliefs, ancient herbal lore, and Catholic practice. A child is believed to be the victim of the evil eye if he comes home crying and very much disturbed. An egg is broken into a glass; if a long eye-shaped spot appears on the yolk, the person responsible for putting the eye upon the child is a man; if the spot is round, it is a woman. The child's clothes are changed and he is "cleaned" with a soiled kerchief or shirt if the guilty person was male, and with an apron or shawl if a female. Some children are cured by being cleansed on their foreheads, with the tongue making the form of a cross.

"Fright" is an illness which leaves children sad and pale; it is cured by women who can "lay the shadow" that afflicts them. These *curanderos* keep a supply of powdered cedar, palm, and blessed laurel which they throw on the forehead, breast, wrists, palms of the hand, nape of the neck, and into the nostrils of the sick child. While this is being done, the woman prays the Credo, and at the end holds the child's head and cries out that the shadow should withdraw and that the child no longer need be frightened. Some cure fright by having the priest read the gospel over the child in the presence of the child's godparent of the same sex.

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* 1943

The most celebrated healer in Tepoztlán is one Rosalino Vargas, known as Don Rosas. He is also believed to be a powerful sorcerer and is feared by many of the villagers. Some people claim to have seen him riding through the village at midnight wearing a long black cape, with sparks issuing from his eyes and mouth. Don Rosas, who often uses the fear he inspires to his own advantage, has several enemies, at least three of whom have made attempts to murder him in recent years. Don Rosas is wealthy and has a flourishing practice. He has seven female assistants; there is much gossip to the effect that these women are his paramours and sleep with him in turn, one for each day in the week. Don Rosas' loyal clientele insist that the seven women help him treat the sick and perform a series of mysterious devotions which he practices nearly every night.

The technique employed by Don Rosas on his patients contains an interesting combination of Catholic, pagan, and possibly African elements. He does not deal directly with a patient but gets information concerning the nature of the illness through an assistant who questions the patient. After the conference the patient is taken to a room which resembles a chapel in that it has an altar and images of saints. The patient is seated on a chair close to a heavy curtain behind which sits Don Rosas. The visitor is given an image of a saint to hold while the *curandero* prays and goes into a trance. When he is "as if dead," an assistant wafts incense smoke toward him and he begins to speak, as though from a deep sleep, telling what illness the patient is suffering from. Whether or not a cure is possible, is determined by a glass of water which has been placed among the images near the incense burner. If the water turns white, there is hope for a cure; if black, there is none.

If a remedy is possible, Don Rosas then points out the necessary steps to protect the individual and his family from the enemy who is provoking the symptoms. The patient must drink a sweet-sour tasting liquid, prepared by Don Rosas and stirred with a metal cross. The patient then pays two pesos for the cure but first must cleanse himself with the bills in the parts of his body which give him pain, and leave the money on the altar. Before leaving, the patient is given additional medicines to take each night and is generally advised to cleanse himself with very hot herb applications. More medicine is given as needed without charge, and the patient is advised that the medicine must never be placed on the ground since it would lose its potency. Some patients need several consultations, all of which are conducted in the same manner, before they feel well again.

Although he does not hold any official municipal position, Don Rosas is a tremendous power in Tepoztlán because of his prestige and renown as a curer. There is little doubt that the introduction of a medical clinic in the center of his own community did not escape his watchful eye. Nor did it escape the notice of others in positions of power who did hold affice. Although the medical aspects of the clinic were of paramount concern to local health practitioners, its organizational aspects attracted the watchfulness of local political officials.

This article was excerpted from Dr. Lewis' book, *Anthropologic Essays*. Random House, 1970. He was Professor of Anthropology, University of Illinois.

* * *

THE CONCERN OF ALL THE PEOPLE

Medicine should be recognized as a meeting ground of all the sciences and all the arts. It adds to and takes from all areas of human endeavor. It is involved in every aspect of human life. Medicine is the concern of all of the people, whether they need its help or not.

Ward Darley, M.D.

President's Page

PUBLIC OR PRIVATE? THE EMILY P. BISSELL HOSPITAL

Should the terms *public* and *private* be meaningful in matters of health? *No*, they should not. Our endeavors, goals, and objectives as institutions and as physicians should be the same. Coordination and integration of public and private efforts should be encouraged and accomplished. A multiplicity of organizations must exist to maximize innovation and preserve the benefits of alternative choice. The varied types of ownership and organizational forms must not be isolated and autonomous without proper planning and integration. The fact of profit should not be a basic issue, so long as there is responsibility to the public with the variances of methods to achieve a result.

Delaware in not having a ‘public” general hospital is unique. This uniqueness increases our opportunity to integrate *public* and *private* efforts without duplication for the accomplishment of common goals and objectives.

The Bissell Hospital on 50 acres was originally built in 1913 and now has 112 beds in operation. In 1969 there were 287 admissions, 147 with tuberculosis and 140 with chronic respiratory disease with an 88% occupancy, average length of stay of 119 days and the patient day cost of $31.06. The evolutionary change at the Bissell Hospital now includes the Detoxification Center. Patients may voluntarily enter, or, if involved in any drug-related crime, are given the right to be referred to the Center for medical and psychological evaluation and treatment. There is now an urgent need to plan and fit the Bissell Hospital into the framework of comprehensive health care within the state, and the responsibility, in great part, rests with physicians for the use of this facility for education, rehabilitation, and long-term medical care.

An “open staff” policy for all physicians for the Emilly P. Bissell Hospital has recently been endorsed by the State Comprehensive Health Planning Council. This includes the proposal that respiratory disease services for inpatients and outpatients should be expanded, with an active teaching and research program in chronic respiratory disease coordinated with the activities of DIMER. Also proposed is a program for rehabilitative medical care with new buildings designed for this purpose to be built at the present site. Achievement of these recommendations requires the repeal of the statute limiting Bissell admission for diseases other than tuberculosis to indigent patients only.

The Emily P. Bissell Hospital is currently an example of necessary evolution and change. Perhaps this evolutionary change blending *public* and *private* will appropriately be expanded to include all the State health institutions, the State Health and Social Services Centers, the Veterans Administration, and the Alfred I. duPont Institute. Each would have certain structured guidelines and criteria of a physician-patient “open staff” policy.

Physicians should be among the first to recognize this opportunity to demonstrate the merits of combining *public* and *private* efforts. The predominant concern and mission of all must remain the public interest, even though control and ownership may be private.

H. M. Baganz

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PRESIDENT NIXON SIGNS HEALTH MANPOWER BILL

The Health Manpower Training Act of 1971 became law with President Nixon's signature on November 18, making substantial federal funds to support family practice training programs a near-reality.

Although the actual amount of the funding awaits determination by Congress through annual appropriations bills, the new law provides authorization for appropriations totaling $100 million to support family practice educational programs.

The funds, to be distributed over a three-year period, will go to "public or non-profit private" hospitals to develop professional training programs in family medicine and to provide financial assistance to program participants. When he signed the measure, President Nixon requested $350.2 million to fund the legislation's provisions for the remainder of the present fiscal year.

Another provision of the new law allots more than $410 million for special project grants to medical schools. Funds contained in these grants are earmarked for 13 different medical education purposes, including: (1) creation or expansion of new or existing family practice training programs, and (2) provision of funds for trainee-ships allowing full-time students to take part of their education under a family physician preceptor.

Labeled by President Nixon as "the most comprehensive health manpower legislation in the nation's history," the new law also includes the following provisions affecting the entire range of medical education:

Construction grants totaling $750 million (authorized over three years) . . .

Per capita assistance ($763 million) over a three-year period. Eligible medical schools will receive individual capitation grants for each first, second or third-year student enrolled, each graduate and each enrollment bonus student . . .

Payments to two-year medical schools converting to M.D. degree schools, start-up assistance to new medical schools and aid ($45 million) to schools in financial distress . . .

A three-year appropriation of $270 million to educational entities to improve the distribution, supply and utilization of health personnel . . .

Provisions for the expansion of student loans and scholarships, including a three-year appropriation authorization of $9 million for scholarships to students agreeing to practice in physician shortage areas, with priority given to students from low income families residing in such areas who agree to engage in primary care.

To ensure maximum utilization of the legislation's provisions, the Academy's Education Division sent copies of the new law to all medical schools and family practice programs, enclosing a suggested procedure for applying for grants.

From the Headquarters Bulletin, December 1971.

* * *

A PEDIATRICIAN'S FUTILITY

I have spent my life studying and advising how to bring up children to be well-adjusted and happy. Now I see the futility of such efforts if these children are then to be incinerated or if, when grown, they find life disillusioning, because the society they inherit is confused about sex or gender or brutality.

From Decent and Indecent by Benjamin Spock, M.D.

Editorials

SO MUCH LIFE ON MAN

Read any good dirty books lately? We have; a wonderful dirty book written with wit and crammed with easy to take erudition. The main theme of *Life on Man*, a delightful book by Theodor Rosebury, emeritus professor of bacteriology at Washington University in St. Louis, is that germs are more good than bad, and very much on us and in us.[1] The contents include Dr. Rosebury's own collection of historical evidence that man's aversion to germs and his compulsion to exterminate them are due to the same repressive and irrational mechanisms that have led him to repress other biologic realities of his animal existence.

The headings of the three sections of his book give an outline of his action plan and his sense of humor; *Microbes, Without Shame; Taboo, Prejudice, and History;* and *For Better and Worse*, the first chapter of which is *The Great Scatologists.*

Where else does a book about life on man start but with the work of the first man to describe it?

'For my part I judge, from myself, that all the people living in our United Netherlands are not as many as the living animals that I carry in my mouth this very day," wrote Antony van Leeuwenhoek in 1683. His fascination with the wee critters of his own secretions extended to those in his diarrheal stool in which he detailed his observations, probably of the protozoa Giardia lamblia, ". . . animalcules a-moving very prettily. . . Their bodies were somewhat longer than broad, and their belly, which was flatlike, furnisht with sundry little paws, wherewith they made such a stir in the clear medium. . ."

Many of the great Dutchman's best observations were made on the "white matter, which is as thick as if it 'twere batter", which he was readily able to scrape off his teeth. His observation that a drop of vinegar mixed directly with the animalcules on his slide killed them, but vinegar rinsing of his mouth had little effect on the "unbelieveable number of living animalcules", may be called the first anti-mouthwash experiment.

Dr. Rosebury is full of amazing facts. Would you have imagined there are 100 trillion (10^{14}) microbes in a normal human bowel movement? And that the average number of wee beasties per square centimeter of no more than usually dirty skin is 5 million, or 10^{11} per human pelt?

Did you know that the normal fingers are less populated with microbes than the armpit? That vulval and scrotal skin, although richly populated with many varieties of bacteria are not hospitable to the fecal flora which regularly contaminate them and it does not thrive thereupon? As a matter of curious fact, normal vulvar flora is more similar to tonsillar than fecal flora but quantitatively less. The acid producing bacteria of the mature vagina are effective inhibitors of many other bacteria and thus a protection against undesirable microbial intruders with one important exception: they are not repellent to the bacteria of venereal disease, a fact which suggests to Dr. Rosebury that venereal diseases are relatively late evolutionary arrivals on the human scene.

The normal fetus is germ-free at birth, his bacterial flora arrive shortly thereafter and never leave. Breast fed infant's stools are populated almost entirely by a forked lactobacillus appropriately named *bifidus.* It is native to pregnant women's vaginas, colostrum, the nipple skin of lactating mothers, and not otherwise found on human skin. How *bifidus* gets to the nipple remains a PhD thesis project for some intrepid bacteriologist yet to come.

Most of the bacteriology is concluded by page 66 after which the philosophy starts.

Chapter Seven, *How Did We Go Wrong?* is succeeded by *Don't Mention It*, followed by *Toilet Training*, and *The Romans Had a God For It.*

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[1] Life on Man by Theodor Rosebury, The Viking Press, New York, 1969.

We went wrong when we first began to be secretive about our natural excretory activities, and that was long ago. Herodotus related that the Egyptians "eat their food out of doors, but retreat for private purposes to their houses, giving as a reason that what is unseemly, but necessary, ought to be done in secret. . ."

The depth of the research effort for this entire book can be exemplified by this reported fact: Apache men squat to urinate while their women stand.

In the last third of his book, Dr. Rosebury philosophizes. Leading off with the cogent couplet, "Adam had 'em," (germs, that is) he then speculates on the origins of, and necessities for, taboos and repressions.

"If there is nothing ugly or reprehensible about man except what can be defined as disease and treated accordingly, we ought to separate the notion of obscenity from all healthy human acts and functions, and from the parts of our bodies concerned with them. . ."

The book ends with a discussion of the fear techniques used by the hucksters of all manner of soaps, cosmetics, and deodorants to induce man to search for an unattainable and actually undesirable state of sterility. The villains are more the germ killers than the germs, suggests Dr. Rosebury. Here he injects some of his personal politics which I am afraid may weaken acceptance of his superb bacteriology and history by those who disagree with his non-bacteriologic analogies and political expressions. This would be a pity, because this is an extraordinarily good book.

B.Z.P.

* * *

MINOCYCLINE

Minocycline, the newest of many tetracyclines available to the clinician, has some unique qualities which should make this preparation of interest to the practicing physician. Like doxycycline, this new tetracycline has a prolonged half life in the serum and a relatively low renal clearance. This antibiotic requires less frequent administration and may be less toxic in patients with impaired renal function.

While the antibacterial spectrum of minocycline resembles that of other tetracyclines, several reports[1,2] suggest that it is the most effective tetracycline now available for clinical use. Minocycline is the only available tetracycline with *in vitro* effectiveness against tetracycline-resistant strains of *Staphylococcus aureus.*

Minocycline has been most extensively studied[2,3] in the treatment of urinary tract infections where it appears to be a satisfactory agent in both acute and chronic infections. In more limited experience minocycline appears to be effective in the treatment of bacterial respiratory infections.

Recent reports[4] suggest that this new tetracycline is effective in eradication of the meningococcal carrier state and, in fact, may be the most effective agent available for this purpose.

Minocycline has also been effective as a single dose agent in the treatment of gonorrhea in male and female patients.

In selected patients minocycline, like doxycycline, appears more effective than older tetracyclines in the control of chronic pseudomonas urinary tract infections.

A much broader experience with the use of minocycline in the treatment of patients with bacterial infections will be necessary before any distinct advantage of this agent over the other tetracyclines can be established. Even though this agent is effective against tetracycline-resistant strains of *Staphylococcus aureus*, the large number of antibiotics currently available for the treatment of such infections minimizes this potential advantage. The relative safety of these new tetracyclines, in patients with renal insufficiency requires further clinical investigation.

Minocycline appears to be well tolerated and, in our experience, rarely produces photosensitivity.

W.J.H.

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* * *

HOSPITAL COSTS: SENSE AND NONSENSE

I am distressed in my readings of the daily press to find that a new national system of health insurance will solve all the problems that Medicare and Medicaid were supposed to solve.

My great fear is that we will again assume that new legislation, which some of its protagonists insist will cost us nothing (!), will give us all the answers which we have been unable to work out previously.

I do not contest for a moment that serious deficiencies exist in our present nonprofit and commercial insurance, but I am not able to discover how these defects are supposed to be remedied and a lot of other ones in addition by recourse to a national system.

For years economists have been unsettled by what might be called the vulgar liberalism of the American businessman who sings the praises of the free market while engaging in all kinds of restrictive practice and in addition seeks favors from the government.

The medical reformers seem to me at least to be engaged in a similar game of assuring the public about the values of a national health insurance system without indicating how this model is supposed to produce the results which they seek and the public needs. . . .

The critical point is that the nation is pushing against the ceiling of real resources. We no longer have any large number of excess workers or excess capital to play with. This is the critical issue in financing mechanisms.

The problem faces us not only with respect to medical care but also in education, urban renewal, environmental control. in fact, with respect to everything that needs doing and that we want to do. . . .

With respect to the shortcomings of insurance I am in favor of improving major medical which, in my opinion, with its sizeable deductible is what most of middle-class America needs and wants. Since I do not believe that we can guarantee a high level of medical care for the entire American public I want to be careful about how to improve the present imperfect structure.

One way, as I have just suggested, is to strengthen major medical insurance.

The other is to work out some special approaches to the urban and rural poor so that they can gain more access than they now have to the system. In the cities I would try to link them to the major teaching hospitals. In the countryside I would stress public health nursing and improved transportation to urban hospitals. . . .

In 1940, the per diem hospital cost in New York City was $7. In 1955, it was approximately $30. In 1968, it averaged about $110. Clearly, hospital costs have been rising over a long period and I see no prospect for them to do anything else but to continue to rise. The critical question, however, is at what rate. . . .

Let us face up to the fact that we have never had, we do not now have, and we will never have enough money to practice the best type of medicine that we are capable of practicing for all the people of the country. We live in a world of limited resources and the public in the last analysis must decide through the legislature, through insurance, and through direct payments how much of its total budget it is willing to allocate to health.

The decisions about health are now directly in the political arena. But it behooves all of us to remember that politics like the market is a potential but limited instrument and that it is no more capable of creating bricks without straw than is the private entrepreneur.

Eli Ginzberg, Ph.D.

Dr. Ginzberg is Professor of Economics and Director, Conservation of Human Resources, Columbia University.

Excerpted from an address to the Association for Hospital Medical Education, February 1970, which appeared in the January 1971 issue of Viewpoint.

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American Cancer Society, Delaware Division, Inc. — Oscar N. Stern, M.D., Liaison
Community Council on Emergency Services — L. Mario Garcia, M.D., Representative, Alfonso P. Ciarlo, M.D. Albert Dworkin, M.D.
Delaware Academy of Medicine — Norman L. Cannon, M.D., Representative
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Delaware Tuberculosis and Health Society — James M. Hofford, M.D., Liaison
Mental Health Association of Delaware — Richard J. Kester, M.D., Liaison
Spina Bifida Association — Dewey Nelson, M.D., Liaison
Medical Advisory Committee, Division of Social Services. State of Delaware, Rhoslyn J. Bishoff, M.D., Representative

PROCEEDINGS OF THE HOUSE OF DELEGATES, 1971

MEDICAL SOCIETY OF DELAWARE

THE PRESIDENT'S ADDRESS

We are together at the 182nd Annual Meeting of the Medical Society of Delaware. This signalizes the end of a privilege you, my colleagues, bestowed on me, namely having me as your president. For this, I thank all of you. Further, I thank all of you who have cooperated with me and aided me in the completion of the work of this past year. The committees with thir chairmen, the Executive Director and her staff who worked from 8:00 a.m. to as long as midnight on many occasions, my secretaries, my family and most of all my wife, have all ably blended behind me, to aid me through this past year.

Welding three counties into one state was the theme of our efforts this year. Our duties were and still are, to pull together the many experimental programs started by Dr. Stroud's Task Forces, delving into the health care delivery systems *that need to be,* and *should be,* developed in the State of Delaware.

Foremost in struggle and effort, were the activities of the Task Force, chaired by Dr. David Platt, to bring about the Delaware Foundation of Medical Care. With only eight hours' notice, Dr. Platt, despite automobile failure, arrived in the offices of HEW, gave a five-minute appeal for his committee's foundation program, sat down and was assured of open doors until his program was completed.

Dr. Henry Stroud's Careers Development and Training — Allied Health Personnel was aggressive in obtaining a law permitting medical assistants. National lawmen have felt such creation, without complete definition and proper licensure, is incomplete. Our Task Force points out, we of medicine must reconsider and actively establish guidelines for certification, scope of practice and for the qualification and for the training of the medical assistants.

The very fact that Task Force Number One in Population and Growth — Family Planning, had no report, points up the need for more of us to enter into aiding this committee and all committees with innovative ideas.

Task Forces three, four, five, six and seven are in the process of development. The future can bring more work and demands of innovation in them.

Cooperation from the New Castle County President, Dr. John Egan, aided the Liability Insurance, under Dr. James McClements, in establishing a program for malpractice insurance for all. This is a new committee so established to follow practices of other states. With such good beginnings, it should continue unimpeded by other financial and economic considerations as a separate committee until its work is completed.

Realignment of the Medico-Legal Affairs Committee moved the coordination of committee affairs back to our Medical Society Headquarters. Dr. Gibbs as chairman has attended a national symposium meeting on the subject of Medico-Legal Affairs to broaden his understanding, and thereby aiding us all.

All committees ar worthy of attention. In truth, they are making themselves felt. The Public Laws, Aging, Emergency Services, Drug Abuse, Education, Medical Economics, Medical School, Mental Health and Alcoholism, Prepayment, Medical Review, Rehabilitation and Venereal Disease committees have well-established accomplishments throughout the state. Added to our committees' rsults were the fine contacts maintained by those physicians who labor as our liaison officers to the Woman's Auxiliary, the Cancer Society, the Academy of Medicine, the Heart Association, the Nurses' Association, the Interagency Council on Smoking and Health, and the Mental Health Association.

A little infighting in the Formulary Advisory Board cannot go without mention. If you will note, there are two reports from this board. This should mean work, thought and downright cussedness existed within the committee. It is unfortunate to note that this committee was not able to contain its infighting, but allowed its discontent to spill out into the national press by making nationally aired statements of half truths in an effort to—well, draw your own conclusions. This committee teaches us that infighting gets all the truth out, but its final duty is to present a solid and consolidated opinion when it goes public with its views and assertions.

We ended this year our more direct affiliation with the Blue Shield Board. In so doing, we may have stolen the headlines, but it did not hurt for the men of medicine to appear to be more aggressive than the third party pay people.

It may have been too subtle to be noted, but a new system of using a trustee from the Board of Trustees as liaison with each committee was started; only the future will spell success or failure with the plan.

The Woman's Auxiliary continues to do its good work. We entreat you to enjoy the fashion show they have planned for lunch tomorrow.

The end of an era is upon us. We need, each of us, to pause and be thankful for the eighteen years of service given all of us by Dr. Tom McGuire, AMA past vice-president and our delegate for eighteen yars to the AMA. *See that, that's a little red barn and,* that's Tom McGuire — need I say more? And for you who don't know what the little red barn is, Tom gave a speech at the

AMA many years ago and used a group of slides of the Eastern Shore, and in this speech somehow this red barn slide got up there and it wasn't supposed to be there, and Tom waited a long time, and after he got everyone a little anxious about what he was going to say about that, he then said, "And that is a little red barn," and broke the house down. When you go to the AMA, they always talk about this.

A promise at high level conference was made to the Blue Shield that the contract would be presented for further action by the House of Delegates. It is my thought that though we will act on this contract, the opinions are so varied at the moment, that you in your full wisdom will defer action, hopefully empowering the Board of Trustees to make a final decision by a certain date. A definite date will be necessary or Blue Shield will be forced to take disagreeable action.

You are all familiar with the fact that you send in a bill and Blue Cross pays it direct. They don't mean this as a threat, but without a contract they will start paying the patient direct, and most of us know what happens when other third-party people pay the patient direct. You take a lot longer getting your money. But this is not a threat; it is just a simple statement of fact that without a contract this will happen.

Now, we can defer this if we give them a definite date. At a high level meeting with them I did give them a definite date, this meeting, but as I have said just a few moments ago, the thing is so varied in what has happened in the past few weeks that I don't think you will be able to come to a final decision today.

The cost of state management suggests a change that will further the consolidation of our three counties as a one state effort. An idea I would forward as a method to curtail expenses is:

(1) Disband the county societies as such, forming integral county councils.

Some of you will say, "Bishoff has lost his head," because I am the guy who always said, "You don't think about downstate," and here I am saying, "Forget downstate and put them in county councils and form one society out of the entire state," but costs are beginning to take effect, and when we put all our money into little fragmented efforts, it doesn't seem a good show, and I think we can improve this by doing that.

(2) Directors for each council are reportable to and guided by secretaries appointed by and reporting to the Executive Director of the State Society.

(3) This would accomplish two things: a solidification of the State Society, giving it more leadership in State and National affairs and reducing the dues, making dues payable only to the State Society.

That is a figure of speech, reducing the dues. It will not reduce the dues in total at the present moment, but over a broad period of time you wouldn't have to pay additional to what you are going to be asked to do today.

Certainly this is only an idea, but it needs to be aired for we truly need a method to make the most use of our finances.

This year has been fun, but it has shown the need for more continuity in the State Society Leadership. Perhaps it means a two-year term for the president. A more dedicated and closely arranged executive committee for the Board of Trustees consisting of the President, the President-elect, the Vice-President and the Presidents or Chairman of each county council has been suggested by Dr. John Egan, this may be the way to go. This suggestion should be analyzed, for we need the strength of continued leadership.

Finally, we should have a complete revision, to update our by-laws and bring all county by-laws to comply with those of the State by-laws.

As I depart as president of this Society at the end of its 182nd year, I want all of you to know I have considered it a privilege to serve in high office and I thank you for this honor. Later I will tender the gavel, as many of you know, to the hands of Dr. Herbert Baganz, who I know will carry on the traditions of the Medical Society of Delaware.

Rhoslyn J. Bishoff, M.D.

RESOLUTIONS

The following Resolutions were considered at the Annual Meeting of the House of Delegates of the Medical Society of Delaware.

Resolution No. 1

Whereas, A constituent society having fewer than 1000 members is entitled by the most recent apportionment of the American Medical Association to one delegate; and

Whereas, The presence of two voting delegates, able to give voice to the views of their constituents, is preferable to a single voice; and

Whereas, This would enable a state society having fewer than 1000 members to bring a greater number of young, able and productive physicians into a role of active leadership, as stipulated by our AMA President Dr. Hall in his inaugural address; therefore be it

Resolved, That there be two delegates from states having fewer than 1000 members, each delegate having one-half vote in the House of Delegates of the American Medical Association.

Rhoslyn J. Bishoff, M.D.

Report of the Reference Committee

The Committee makes no recommendation on this resolution, leaving it up to the House. They point out that a split vote, half per man, could presumably lead to a "No" vote if there was a clash between the two men, half a vote cancelling one, one voting "Aye," one voting "Nay." They also point out that in this age of budgetry it would involve additional expense to the Society. The resolution was adopted by amending the Resolved to read "That there be two delegates in the House of Delegates of the American Medical Association from states having fewer than 1000 members."

Resolution No. 2

Whereas, The organizational structure of the Medical Society of Delaware could be made more effective with the institution of certain changes; and

Whereas, The Society is cognizant of specialty groups not being represented; and

Whereas, The socio-economic aspects of medicine have an increasing impact on the practice of medicine; and

Whereas, The requirements of today are such that many things formerly being done on a county level are now being done on a state level; therefore be it

Resolved, That a By-Laws Committee be appointed for the purpose of restructuring the Society in order to cope with the multiplicity of issues and pressures confronting medicine today.

Pierre L. LeRoy, M.D.

Report of the Reference Committee

The Committee recommends adoption of this resolution with the addition of the word "studying" prior to "restructuring." The resolution was adopted with the recommendation of the Reference Committee.

Resolution No. 3

Whereas, The officers and elected Trustees have a vote and voice on the floor of the House of Delegates; and

Whereas, The Editor of the Society's official publication and the Delegate to the AMA are members of the Board of Trustees, but without a vote and voice on the floor of the House of Delegates; therefore be it

Resolved, That the Editor of the Society's official publication and the Delegate to the AMA should be given a vote and voice on the floor of the House of Delegates.

Joseph W. Abbiss, M.D.

Report of the Reference Committee

The Committee recommends that the resolution be referred to the By-Laws Committee and that the Editor of the Delaware Medical Journal and the AMA Delegate be allowed voice without vote until further study. The resolution was adopted by amending the Resolved to read "That the Editor of the Society's official publication and the Delegate to the AMA should be allowed voice without vote on the floor of the House of Delegates until further study by the By-Laws Committee."

Resolution No. 4

Whereas, Ophthalmology represents a singularly specialized and vital part of health care; and

Whereas, The provision of specialized ophthalmological health care to the people of Delaware is the responsibility of sixteen physicians certified in this specialty who practice in this state; and

Whereas, Actions and deliberations undertaken by the Medical Society of Delaware in the area of ophthalmologic health care would benefit from the expertise available in this group of ophthalmologists; therefore be it

Resolved, That henceforth at least one ophthalmologist will be designated to the House of Delegates of the Medical Society of Delaware.

Davis G. Durham, M.D.
Director
Department of Ophthalmology
Wilmington Medical Center

Report of the Reference Committee

The Committee notes that the point at issue, ie, the specialists and their representation, is duplicated by Resolution No. 2. The Committee rcommends acceptance of the resolution with thanks. The resolution was accepted with thanks.

Resolution No. 5

Whereas, The role of the State Society as representative of organized medicine has grown in importance and involvement; and

Whereas, In this role it is extremely important that there be experienced leadership; and

Whereas, The experience gained during a one-year tenure is too valuable not to be utilized for at least two years; therefore be it

Resolved, That the Society study the question in depth.

Pierre L. LeRoy, M.D.

Report of the Reference Committee

The Committee recommends referral of this resolution to the By-Laws Committee for study. The resolution was referred to the newly-constituted By-Laws Committee.

In Brief

Speakers on "Ask the Doctor"

Speakers for February 1972 on the Tuesday radio program (11:05 a.m., WDEL produced by the Medical Society of Delaware are: February 1, Neil de Leeuw, M.D., *Plastic Surgery;* February 8, Roy H. Blomquist, D.D.S., *Dental Health;* February 15, James M. Hofford, M.D., *Causes of Shortness of Breath;* February 22, Maurice Thew, M.D., *Skin Problems;* February 29, Richard C. Hayden, M.D., *Menopause.*

In the News

Margaret I. Handy, M.D., has been made an honorary fellow of the College of Physicians of Philadelphia. The college was established in January 1787. This is the first time that it has bestowed an honorary fellowship on a woman doctor.

Recent gubernatorial appointments include:
Floyd I. Hudson, M.D., to the Council of the Delaware Home and Hospital; John A. J. Forest, Jr., M.D., to the Council on Mental Retardation; James E. Marvil, M.D., to the American Revolution Centennial Resource Committee.

Head Restraints

The Insurance Institute for Highway Safety and the State Farm Mutual Insurance Co. reported at the annual meeting of the American Public Health Association that there are nearly 4,000,000 rear-end auto collisions in the United States every year causing more than 1,000,000 neck injuries. Research in this area has shown that females have a higher susceptibility than males to whiplash injuries. Of male drivers observed in Los Angeles, 74 percent had their adjustable restraints improperly positioned behind their heads. Of female drivers, 57 percent had them improperly positioned. "An adjustable head restraint if left in its lowest position actually may increase the chance of severe whiplash injuries by acting as a fulcrum for the head, especially for taller people . . ."

Salmonella Outbreak

In 1970, 49 salmonella outbreaks involving 3,852 persons were reported to the Center for Disease Control. Of 31 foodborne outbreaks, 25 were traced to specific contaminated foods, including six caused by turkey four by pork products, three by ice cream, three by chicken, two by potato salad, one by pork and turkey, one by beef and ham, and one each by beef, Cornish hen, lemon tarts, bread puddings, and spaghetti with sauce. Multiple foods were found to be contaminated in three outbreaks. The specific food vehicle could not be identified in the three remaining outbreaks. . . . Five outbreaks involving seven persons were traced to household pets infected with the same serotypes, including a pet dog (one outbreak), pet parakeet (1), pet goslings (1), and pet turtles (2). Thus only a very small fraction of the total of 24,216 isolations of salmonellae in 1970 were from reported outbreaks.

Morbidity and Mortality Weekly Report, Oct. 16, 197

New Survey

Results of a survey of merger attitudes by staff physicians are detailed in a paper entitled "Physicians and a Hospital Merger: Patterns of Resistance to Organizational Change" by Robert A. Rothman, Allen M. Schwartzbaum, and John H. McGrath, III, in *Journal of Health and Social Behavio* 12 (March), 1971.

Essay Contest

The 1972 Alfred A. Richman Essay Contest sponsored by the American College of Chest Physicians encourages undergraduate medical students to explore and investigate problems relating to the disciplines of the chest, and to present their findings in an open competition. Research or review articles relating to the diagnosis or treatment of cardiovascular or pulmonary disease are acceptable. Preceptors are at liberty to assist the student in selecting a suitable subject and guide him in the preparation of his essay. Three cash prizes totaling $1,000 are awarded annually. The deadline for entering this year's competition is March 31, 1972. The official application form may be secured by writing Essay Contest, American College of Chest Physicians, 112 East Chestnut Street, Chicago, Ill., 60611.

Physicians Art Association

The American Physicians Art Association invites their medical colleagues to become members of their national non-profit organization which is dedicated to furthering art interests of the medical profession. Works of art in the fields of painting, sculpture, photography, graphic arts, design and creative crafts may be shown in the national annual exhibition of physicians' art works. If you are interested in becoming a member, contact: A. M. Gottlieb, M.D., President of APAA, 3801 Miranda Avenue, Palo Alto, Calif., 94304.

Medical Art Competition

An Annual Medical Art Award Competition will be sponsored each year by the Student American Medical Association in cooperation with Eaton Laboratories, Division of Norwich Pharmacal Company, Norwich, New York. The program is designed to stimulate the use of graphics in medical communications and will be expanded in 1972 to include a PhotoEssay award category. Eligibility for competition also will be expanded. Prizes will be awarded and honorable mentions will receive certificates. The Medical Society of Delaware has application blanks for those interested.

Research Service

The Berliner Research Center announces a new computer and manual research service to supply current and back-dated published literature. Photocopies of published material can be supplied going as far back as 100 years plus. For more details, send for free brochure T-2, 976B, Berliner Research Center, Danbury, Conn., 06810.

Highway Safety

Voice Behind the Wheel, The Travelers Insurance Co.'s highway fact booklet, is a very readable and impressive presentation of facts and figures on highway safety and the absence of it. Get a free copy for yourself or your teenage driver from the Office of Consumer Information, The Travelers Insurance Co., One Tower Square, Hartford, Conn., 06115.

Medicare Deductibles to Rise

The Secretary of HEW has announced that beginning this month, an older person who goes to the hospital under Medicare will be responsible for the first $68 of his hospital bill — now running about $800 for the average stay by a Medicare beneficiary.

Under the formula in the law, the new hospital deductible is based on the ratio between hospital costs in the previous year (1970) and costs in 1966, the first year of Medicare operation. That ratio is then multiplied by $40 and the result rounded to the nearest $4. The result is an increase from $60 to $68.

When the hospital deductable amount changes, the law requires that comparable changes be made in the dollar amounts a Medicare beneficiary pays toward a hospital stay of more than 60 days, or a posthospital extended care stay of more than 20 days.

When a Medicare beneficiary has a hospital stay of more than 60 days, he will pay $17 a day for the 61st through the 90th day, up from the previous $15 per day. If he has a posthospital stay of over 20 days in an extended care facility, he will pay $8.50 per day toward the cost of the 21st day through the 100th day, up from the previous $7.50 per day.

If he needs to draw on his "lifetime reserve," the reserve of hospital days a beneficiary can draw upon if he ever needs more than 90 days of hospital care in the same benefit period, he will pay $34 for each day used, instead of the previous $30 per day.

CLINICAL NOTICES AND MEETINGS

ACP Regionals

The American College of Physicians will offer a continuing education program of nearly 40 regional scientific meetings during the 1972 academic year. Those being presented in this general area in the near future are: *(Virginia Regional),* Charlottesville, Va., February 19, 1972. Info: Taliaferro Thompson, Jr., M.D., Medical College of Virginia, Richmond, Va.; *(Air Force Regional),* Washington, D. C., February 24-26. Info: Ernest J. Clark, M.D., Hq. USAF, (SGPAC), Washington, D. C., 20333; *(Downstate New York Regional),* New York City, March 7, 1972. Info: Julius E. Stolfi, M.D., 116 79th Street, Brooklyn, New York, 11209.

ACCP Postgraduate Course

Modern Concepts in Acute and Chronic Cardiorespiratory Care — Newborn, Adult, a four-day postgraduate course will be presented in Steamboat Springs, Colorado, February 28-March 2, 1972, sponsored jointly by the American College of Chest Physicians; Pediatric Cardiopulmonary Department, University of Colorado Medical Center; and the Cystic Fibrosis Foundation. For further information contact the Department of Continuing Education, American College of Chest Physicians, 112 East Chestnut Street, Chicago, Ill., 60611.

IV Medical-Legal Institute

The University of Miami Law Center and School of Medicine announces the forthcoming *Medical Malpractice, A Legal Course for Doctors,* March 1-4, 1972 at the Americana Hotel, Bal Harbour, Florida. The purpose of the seminar is to give to doctors and hospital administrators an in-depth introduction to their legal rights and duties in relation to their patients. Inquiries should be addressed to: IV Medical-Legal Institute, University of Miami Law Center, PO Box 8087, Coral Gables, Fla., 33124.

American Fertility Society

The American Fertility Society announces its Fifth Postgraduate Course and 28th Annual Meeting to be held at The Waldorf-Astoria Hotel, New York City. The postgraduate course will be held February 27 and the Annual Scientific Meeting, February 28-March 1, 1972. For additional information contact: Herbert H. Thomas, M.D., Medical Director, American Fertility Society, 1801 Ninth Avenue South, Suite 101, Birmingham, Ala., 35205.

ACP Course

The American College of Physicians presents *Advances in Clinical Endocrinology,* March 7-10, 1972, Boston University Medical Center, Boston, Mass. For information write: Postgraduate Courses, American College of Physicians, 4200 Pine Street, Philadelphia, Pa., 19104.

Pastoral Care Seminars

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Environment And Health

AIR CLEANERS AND OZONE

Charles M. Bancroft, M.D.

The principle of electrostatic precipitation of airborne particles was discovered in 1905. It has been widely used for control of industrial dust and smoke. It is also an effective method for removing environmental pollens, house dust, tobacco smoke, fumes and bacteria.

Electronic air cleaners are used in home central heating and air-conditioning systems and in room console and portable units. The efficiency of these units is rated up to 95%. All electrostatic precipitators inherently generate ozone, and the effect of ozone on humans is controversial. Limit values vary. The Public Health Service since 1964 has felt there should be no concentration of ozone, however small. Ozone levels above 0.05 are considered by most health authorities, including the Food and Drug Administration, to be undesirable.[1]

To our knowledge, no deaths in humans have been directly attributable to exposure to ozone. There are published reports, however, describing welders who have developed various symptoms when exposed to high concentrations of ozone during performance of their occupation.[2] Their symptomatology include irritation of the eyes, nose, throat and lower respiratory tract. Removal from the high concentration of ozone and symptomatic treatment brought about complete recovery.[3]

Ozone is a severe irritant to all mucous membranes. The first symptoms of irritation (dryness of the upper respiratory passages and initial irritation to the mucous membranes of the nose and throat) occur after brief exposures (13-30 minutes) to low concentrations of ozone (0.05-0.1 ppm). Lung function is impaired for the duration of exposure and for some time after when humans are exposed to an ozone concentration of 0.6-0.8 ppm, a level equivalent to that found in severe photochemical smog.[2]

There is a trend today to use electronic precipitators as adjuncts in the care of patients with hay fever, asthma, or emphysema, or to render living in the "big city" more healthful. It is believed that used in normal home or office situations, these do not give off enough ozone to be harmful to health.

However, enough evidence exists so that there are still uncertainties when one begins an evaluation of the effects of ozone upon humans. Humidity, temperature, concentration, continuous flow, and charcoal filters are but a few of the key factors we are beginning to evaluate, whether the air-cleaner is console, portable, central, or part of the air-conditioning system.

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ACUTE PARATHION POISONING IN AN ADOLESCENT

Janet Phillips Kramer, M.D.

Recently parathion, an organophosphate insecticide, has come into widespread use throughout the country because of its freedom from serious food residue problems and of insect resistance to previously used chlorinated hydrocarbons. Parathion is readily absorbed through the skin; acute exposure to parathion is highly toxic.

The case presented here demonstrates some critical points in the management of parathion poisoning.

Case Report

The 16-year-old white male was admitted to the Wilmington Medical Center approximately nine hours after exposure to parathion (O,O-diethyl O-p-nitrophenyl-phosphorothioate).

The patient, a trained crop duster, accidentally spilled approximately ten cc of parathion-water mixture to be used as an insecticide on his right forearm. He immediately washed his forearm several times with soap and water and then continued working.

One hour after exposure the youth complained of nausea, headache, and difficulty focusing his eyes. He was taken to a local community hospital where he was diagnosed as having an anxiety reaction. Ten mg of prochlorperazine (Compazine, Smith Kline and French) and five mg of diazepam (Valium, Roche) were given intramuscularly. At that point the patient developed severe difficulty in breathing because of lack of muscle tone and increased secretions. The diagnosis of parathion poisoning was made after the history of exposure to parathion was given by the patient's employer. Three hours after contact with the organophosphate, specific therapy was instituted. Atropine sulfate, 0.5 mg, was given intravenously hourly for the next four hours, and one gm of protopam chloride was administered intravenously six hours after initial exposure.

Respiratory excrusion became more decreased despite treatment; consequently a tracheostomy was performed, and Bennett-assisted ventilation was instituted. Rales were noted at the lung bases and two cc of mercaptomerin (Thiomerin, Wyeth) was given intramuscularly. The patient was then transferred by ambulance to the Wilmington Medical Center where he was admitted nine hours following exposure to parathion. His blood pressure was 110/70 with a regular pulse of

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116/minute. His respirations were being assisted by a Bennett machine.

Physical examination revealed a muscular but weak, non-cyanotic, alert, mid-adolescent male with a tracheostomy. The patient's skin was flushed, warm, and dry. The pupils were 3 mm, equal and reactive to light. Funduscopic examination was normal. His mucous membranes were dry. No murmurs or rubs were audible. Lungs were clear to percussion. Sonorous rhonchi were present at the right base, but with assisted respiration good alveolar respiration was present throughout the remaining lungfields. The abdomen was firm; muscle rigidity and occasional muscle fasciculations were noted. Bowel sounds were normal. A urethral catheter was in place; no bladder distension was present.

The patient was able to respond to questions by nodding his head. His grip was very weak, but he could move all extremities. Cranial nerves were intact, the deep tendon reflexes were brisk, and no pathologic reflexes were present.

Admission studies included a hemoglobin of 14.7 gm per 100 ml, hematocrit of 43%. White cell count was 14,300/cu mm with 83% neutrophils, 6% bands, 7% lymphocytes, and 4% monocytes. Calcium, phosphorus, glucose, and liver function studies were normal. Pseudocholinesterase was 0.73 duPont units* (normal values are between 7 and 13 units). Urinalysis was normal except for 3+ glucosuria.

The patient was immediately given 2 mg of atropine and 1 gm of protopam chloride intravenously. His muscle tone seemed to improve, and his respiratory effort was not as restricted. Over the next four hours the patient received two more 1 mg doses of intravenous atropine.

The next morning, eighteen hours after exposure to the parathion, the youth was able to move all extremities, the rigidity noted earlier had disappeared, and he was strong enough to breathe for several hours at a time unassisted by mechanical ventilation. The pseudocholinesterase level was 0.52 duPont units.

He gradually improved in strength. Three days following admission, the patient developed a temperature of 103 F rectally. Two blood cultures and two urine cultures were negative for organisms. Tracheal aspiration demonstrated increased numbers of pneumococcus and *Staphylococcus aureus* (coagulase positive); both were sensitive to penicillin. Chest x-ray demonstrated right lower lobe pneumonia. Because the patient was known to be allergic to penicillin, he was treated with erythromycin.

Twenty-four hours after the institution of erythromycin he became afebrile and had normal strength and respiratory volume. The tracheostomy was removed on the fifth hospital day. His pneumonia cleared over the next week, and the patient was discharged in good condition fourteen days following exposure to parathion. Pseudocholinesterase level the day of discharge was 0.69 duPont units.

Discussion

Parathion poisoning is rare in Delaware. However, in few areas of this country and in several other countries, poisoning with organophosphates, particularly parathion, is relatively commonplace. For instance, parathion is commonly taken by suicides in Denmark and Finland. Accidental poisoning occurred in Singapore in 1959 when 35 children, nine of whom died, ate barley contaminated during shipment by parathion.[1] In one county in Florida where organophosphates were used extensively for crop dusting, 72 people died of pesticide poisoning between the years 1959 and 1965. Of these, 42 deaths were due to organophosphates, 33 specifically to parathion. Most of the deaths occurred in children who unknowingly wandered through recently sprayed fields.[2]

Our patient demonstrated a classical pattern for parathion poisoning. Even though he was wearing a long-sleeved shirt, long trousers, boots, rubber gloves and rubber mask (all standard precautionary equipment against skin contamination by the chemical), a small amount of parathion splashed just above the rim of his glove. Despite immediate thorough cleansing of the area, the patient absorbed enough parathion through his skin to cause a severe toxic reaction.

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*Also known as international union of biochemistry unit per milliliter.

In man parathion is most toxic by inhalation. Ingestion of parathion is seven times more toxic than skin application.[3] As little as one drop of concentrated material can cause death if splashed in the eye.[4]

Parathion usually remains active for several days on the surface of plants, fruit, clothing, and machinery.[5] It is therefore imperative that medical personnel treating a patient exposed to parathion take proper precautions to avoid contaminating themselves with the substance.

The organic phosphorous compounds include not only parathion but other insecticides and also nerve gases. The primary mechanism of action is the inhibition of cholinesterase enzymes throughout the body. Normally, acetylcholine liberated at the presynaptic endings and motor endplates by nerve impulses acts directly upon motor and autonomic effector cells to produce muscarine-like or nicotine-like responses respectively.[6] Cholinesterase exhaustion terminates the response by hydrolyzing acetylcholine to choline and the acetate ion.

Organic phosphorous compounds attach a phosphoryl group to cholinesterase and thereby render the enzyme unable to perform its function. Excessive concentrations of acetylcholine therefore build up in the endings of parasympathetic nerves to the smooth muscles of the iris, ciliary body, bronchial tree, gastrointestinal tract, blood, and blood vessels, in the secretory glands of the respiratory tract, in cardiac muscle, and in the sympathetic nerves to sweat glands. There are also increased accumulations of acetylcholine in motor nerves to voluntary muscle in the autonomic ganglia, and in the central nervous system.

The presenting signs and symptoms of parathion poisoning follow the physiologic schema presented above. The first definite symptoms include nausea and anorexia which may be aggravated by smoking or eating. Other muscarine-like effects such as vomiting, abdominal colic, diarrhea, sweating and salivation then ensue. Central effects including restlessness, giddiness, apprehension, slurred speech, ataxia, and hyperventilation later become apparent. With these symptoms and signs, it can be easily understood why parathion poisoning, if history of exposure is not available, may be misdiagnosed as use of a hallucinogen such as LSD or STP or as hyperventilation syndrome.

Poisoning with parathion consists of a phase of increased cholinergic mediated hyperexcitability followed by a phase of weakness and paralysis. With severe poisoning there is the development of muscle twitching in the tongue and eyelids, soon extending to the trunk and limbs. Weakness with paralysis of respiratory muscles then follows. Incontinence of urine and feces usually precedes generalized muscle convulsions or coma. Death may occur from aspiration of stomach contents, from pulmonary edema, or from paralysis of respiratory musculature. However, most fatalities in man are due to respiratory failure on the basis of central nervous system paralysis with impedance of air exchange by increased bronchial secretion, bronchoconstriction, laryngeal spasm, and upper airway obstruction by the tongue.[7,8]

The four major keys to therapy are washing the exposed area well with 95% ethyl alcohol, securing an adequate airway with artificial ventilation if necessary, atropinizing the patient immediately, and administering pyridine aldoxine methiodide (PAM) or a similar systemic anticholinesterase antidote.[9]

Unlike poisons such as TEPP, paraozon and nerve gases which are immediately active cholinesterase inhibitors, parathion is not a true cholinesterase poison until it is converted by the liver microsomal enzymes to paraoxon.[10] It is therefore felt that poisoning by parathion requires more sustained treatment than poisoning by organophosphates which are toxic *per se*.[11]

Atropine given in large doses, 1 to 4 mg intramuscularly or intravenously, and 1 to 2 mg at intervals of 15 to 60 minutes, sometimes for many hours, controls the cardiovascular effects and probably some of the central nervous actions of organophosphate poisoning, but not the skeletal muscle weakness associated with the poisoning. The usual clinical mistake is to give too little atropine to control secretions. It should be noted that eye signs are not a particularly good method of judging the degree of atropinization.

If the patient exhibits decreased muscle strength, PAM in a dose of 1 gm intravenously over a five to ten minute period should be given. PAM reactivates parathion-poisoned cholinesterase to restore skeletal muscle strength. Maintenance doses may be given by subcutaneous, intravenous, and intramuscular routes. Because PAM and atropine have different routes of action they may be used together; in mild poisonings, atropine may be used alone.

Because of the rapidly changing clinical picture of parathion poisoning, patients with this difficulty should receive intensive care. The pharmacologic management is important, but paramount is attention to respiratory exchange with ongoing evaluation of disturbance of respiratory physiology and mechanical assistance if necessary.

At one time phenothiazine tranquilizers were employed for their anti-emetic and calming effect in organophosphate poisonings, but in the past decade several cases of exacerbation of organophosphate poisoning were noted after the administration of phenothiazines[12] which are cholinesterase depressants. Our patient's status suddenly deteriorated after the administration of 10 mg of prochlorperazine. Several other drugs such as barbiturates, chlordiazepoxide, meprobamate and reserpine which potentiate the central nervous system actions of organophosphates should also be avoided.[13,14]

Routine admission laboratory tests are usually normal except for transient glucosuria in most patients during the acute toxic stage.

Several laboratory tests may be used to confirm the diagnosis of organophosphate poisoning by determining cholinesterase or pseudocholinesterase levels. Both cholinesterase and pseudocholinesterase are found in nervous tissue. Cholinesterase is found in the red blood cells and pseudocholinesterase in circulating plasma. A number of disease and toxic states lower the latter, but depression of the red blood cell enzyme is a specific response to organophosphate toxins.[15]

In practice, individuals chronically exposed to organophosphate pesticides should periodically have cholinesterase levels performed. If the level drops to 50% or less of normal, the person should not be allowed to return to work until his level rises to 75%. In general, pseudocholinesterase regenerates by 25% increments every seven to ten days.

Because the patient discussed had severely depressed pseudocholinesterase values, he was warned against further exposure to any organophosphate for at least six months.

Summary

In summary the case presented illustrates many of the principles necessary for treatment of organophosphate poisoning, which causes an increase of acetylcholine throughout the body by blocking the action of cholinesterase.

Diagnosis must be made on the basis of history of exposure, and treatment must be instituted immediately. Laboratory values in this type of poisoning should be used as confirmatory evidence only.

Immediate, thorough washing of contaminated body areas at the same time avoiding contamination of medical personnel from the organophosphate is imperative.

Therapy should be instituted with atropine and PAM. Adequate ventilation must be maintained, if necessary with assisted mechanical ventilation.

Certain medications such as phenothiazines, chlordiazepoxide, barbiturates, meprobamate, and reserpine are to be avoided since they depress cholinesterase activity.

After recovery the patient must be warned to avoid exposure to organophosphates until his cholinesterase level returns to normal or at least four to six months after a serious organophosphate intoxication.

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* * *

TREATING HEROIN ADDICTS IN WASHINGTON

Robert L. DuPont, M.D.

In the last year Washington, D.C., has developed the largest and fastest growing municipal heroin addiction treatment program in the country. This new program, the Narcotics Treatment Administration (NTA), was treating 2,700 heroin addicts by early March 1971. The benefits of the program have included the first drop in reported serious crime in Washington in 14 years. The decline in serious crimes in Washington during 1970 was progressive just as the earlier crime increases have been progressive. Thus when the fourth quarter of 1970 was compared to the fourth quarter of 1967 there was a 22.5% drop.

All this crime reduction certainly cannot be attributed to treatment of heroin addicts. Part must have resulted from the virtual doubling of Washington's police force between 1967 and 1971. Other factors no doubt also contributed. However, a major share of this accomplishment was widely credited to the treatment of thousands of heroin addicts.

How Was It Done?

There were several essential ingredients to the apparent success of NTA. The first was the political support of the Mayor and the Nixon Administration. Both were committed as a matter of considerable priority to reducing Washington's soaring crime rate. This commitment led to money. Between the summer of 1969 and the spring of 1971 the total city expenditure on heroin addiction treatment increased 13-fold, from $300,000 a year to about $4,000,000 a year.

The second essential ingredient was the widespread use of methadone treatment for outpatient detoxification and for maintenance. Methadone was used on a strictly voluntary basis.

A third ingredient was a close working relationship between NTA and all elements of

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Dr. DuPont is Administrator, District of Columbia Narcotics Treatment Administration.

Adapted from a presentation to the Annual Meeting of the Delaware Academy of Family Physicians, March 1971.

the criminal justice system including the Police, the Courts, and the Department of Corrections. They, like the Mayor and the President, had a major stake in reducing crime. To this was added the full cooperation of the District of Columbia Medical Society and one of Washington's three medical schools.

Fourthly, NTA negotiated treatment contracts with six existing community-based heroin addiction treatment programs in the city. This encouraged diversity of services for addicts and brought together the major nongovernmental programs in the city.

Finally, and perhaps most importantly, was a commitment to achieve measureable results in terms of four program objectives: 1. To treat as many heroin addicts as possible and to retain them in treatment; 2. To get the addict-patient working or in training full-time; 3. To stop illegal drug use among the addict-patients; and 4. To stop criminal activity among the patients.

Program Results

In early March 1971, the Narcotics Treatment Administration was actively treating 2,700 heroin addicts in 14 facilities including four halfway houses with 125 beds, one 70-bed detoxification unit, and 12 outpatient clinics. (Several facilities offered multiple programs including both inpatient and outpatient care.) Of the total number of NTA patients 95% were black, 80% were males, and 60% were under 26 years old. Thirty-one percent were under 21. These demographic characteristics closely parallel data on the group of 77 District of Columbia opiate overdose deaths during 1969 and 1970. This supported the assumption that NTA was treating typical D. C. heroin addicts.

The NTA patients reported an average of 4.7 arrests, and 1.7 convictions. The average age of first heroin use was 19. The average patient was a 10th grade dropout. Sixty-six percent first used heroin after 1963, and 52% first used heroin after 1965. Seventy-six percent were voluntary self-referrals whereas 24% were referred by agencies of the criminal justice system including probation, parole and the bail agency. None were civilly committed. Fifty-five percent of all NTA patients were receiving methadone maintenance, 20% outpatient methodone detoxification, and 25% were abstinent.

A follow-up study of 375 randomly selected adult patients showed that 55% of NTA patients active on May 15, 1970, were still actively participating in NTA programs six months later. There was a considerable difference in the retention rate when methadone maintenance patients were contrasted to abstinence patients. Eighty-six percent of the former stayed with the program during the six-month study whereas only 15% of the latter lasted six months.

Arrest rates, like program retention rates, were related to treatment modality. The arrest rate for the entire sample of 475 was 19%. Over the six-month follow-up period the arrest rates (including those who dropped out of the program) were: methadone maintenance with daily doses greater than 60 mg 12%, methdone maintenance with daily doses less than 60 mg 21%, methadone detoxification on an outpatient basis 21%, abstinence 31%. Patients who stayed with the program had an arrest rate of 2.8% per patient-month. For six months those who dropped out had an arrest rate of 5.7% per patient-month.

For purposes of comparison, a similar group of heroin addict prisoners released without supervision prior to the beginning of the NTA had an arrest rate of 45% after six months. A group of parolees with a history of heroin addiction who were treated in the earlier Health Department abstinence program had an arrest rate of 28% at six months.

In general, both abstinent and methadone maintenance patients who remained with the program for six months were doing well. A total of 46% were employed full-time, and an additional 9% were employed part-time or in training. Fifty-five percent had no evidence of continued illegal drug use on twice-weekly urine testing during the sixth month of treatment. Only seven percent showed continuous use of illegal drugs during the sixth month. The remaining 38% showed occasional use of illegal drugs.

Conclusions

The Narcotics Treatment Administration was developed in response to a frightening rise in heroin addiction and crime. Crime in Washington was reduced. However, there is an equally important result from the successful treatment of heroin addicts which must not be overlooked. This is the release from the devastating slavery of heroin addiction of thousands of individuals. Heroin addiction treatment is thus an important component in any attempt to end poverty, racism, and other "root causes" of crime. Crime reduction is one, but only one, of the important results of an effective treatment program for heroin addicts.

A good start has been made in treating heroin addicts in Washington. But less than 3,000 out of an estimated total of 16,000 addicts are in treatment. Many questions and problems remain. Will the level of support NTA has enjoyed during the last year be increased to end the epidemic of heroin addiction in our city, or will our leaders decide that the problem is now "manageable" and divert scarce new resources to other urgent needs? What is the most appropriate role for methadone maintenance, for abstinence programs, for inpatient and outpatient detoxification? What role should civil commitment and incarceration play in the total treatment of heroin addiction?

In fact we don't know the answers to these and many other critical questions in this field. But the Washington experience has answered, at least partially, two previously unanswered questions: Can a city deal rationally and effectively with a massive epidemic of heroin addiction? And, will the community benefit from the expensive effort needed to treat thousands of heroin addicts?

The answer from the District of Columbia to both questions appears to be, "Yes."

* * *

AMERICAN SILVER WITH A MEDICAL HISTORY

American silver, which has connections with every aspect of early American life, has some interesting stories to tell about medicine in the 18th and early 19th century.

Because of its connotation of purity and its fine metallic properties, silver was a suitable material to be used in making drinking cups, especially for infants or for invalids. Occasionally these vessels were made in the special form of a spout cup to facilitate drinking on the part of the inept or the ailing. In a similar way silver was sometimes used to form a feeding tube or even the nipple for a baby's bottle. The Salem silversmith, Edward Lang, for instance, noted in his account book for the years 1764-1791 that he made a silver pipe for a sucking bottle, and he charged the Honorable Nathaniel Ropes for "a handle for a spout Cup." An even closer relationship between the silversmith and the medical world occurred, however, when he made a silver probe for Dr. Samuel Page of Danvers, Massachusetts, in 1782.

Paul Revere is another silversmith who occasionally made instruments for medical men, among which were lancet cases and spatulas . . . Oliver Wendell Holmes, who was himself a doctor as well as a literary figure, in his essay "Currents and Counter-Currents" noted also that "A silversmith will for a dollar, make a small hoe, of solid silver, . . ." which he recommended to remove the fur from the tongue . . . *Martha Gandy Fales; (Catalog: Delaware Antique Show, Junior Board Delaware Division, WMC, 1967.)*

MAN IN SEARCH OF MEANING

Part I — Man Looks at Death

• **How do people regard Death? How are feelings about Death related to the need to find meaning in Life? The author explores these questions.**

Eli Marcovitz, M.D.

"Man in search of meaning" — what does this mean? For our purposes it concerns the attempt to find purpose or significance — in ourselves, in our thoughts, feelings and activities, in our relations to others, and in the structure, function and interrelationships of the social and natural worlds of which we are constituents.

What are the prerequisites for such a search for meaning? We know the dictum "In the Beginning was the Word" — except that, in the literal sense, it was not. Verbal conceptualization is a very late development among the attributes of life. Inherent in the phenomenon of language is the concept of meaning. Each word or unit of communication means something: it stands for something other than itself. "Meaning," in this sense of "significance" always connotes translation or interpretation, from something not understood to something more understandable.

So the first requisite is language.

In order to raise questions of meaning man must be able not only to observe, compare and evaluate phenomena in the various worlds outside of himself, but also to detach himself sufficiently to observe and judge his own behavior, motives and goals. Self-observation and self-judgment are elements in that complex system of mental functions which Freud designated as super-ego. The development of this self-critical super-ego, which includes a wide range of phenomena from the most archaic and irrational taboos, prohibitions and precepts to the highest ethical and spiritual ideals is our second requisite.

The third requisite is awareness of our mortality. If we follow the development of children and their questions about life we find early questions about origins. "Where do babies come from?" or "Where did I come from?" As children grow older and confront experiences of death they may show curiosity about death, what someone died of, what happens to a person after death, etc. Each child has his own way of reacting to death. A mother reported to me that the family's pet cat died and she was concerned at telling her 3-year-old son when he came home from nursery school. He first patted it, maintaining "It is not dead," then he became irritated and pushed it away, and finally he seemed reconciled and said "I guess it is dead. Now do we eat it?" A 4-year old, on being told that his cat had died and was in heaven, asked "What do you suppose they want with a dead cat up there?"

But there comes a time for every child when he is faced with the realization that he himself eventually will die. Whether or not he actually verbalizes it, at that point each child asks the first emotionally charged ques-

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tion of meaning, of purpose and significance. It is not "Why do I live?" but rather "Why do I have to die?" The first search for meaning is not for the meaning of life or its existence but rather a search for the meaning of death.

A young man in analysis was questioning his religious beliefs and came repeatedly to the same end-point "If there is no hereafter life has no meaning." In spite of his doubts and criticisms of his faith, until he could solve this problem he had to continue to believe. Another man talking of his fears of death suddenly found himself crying out "But death is absurd." He meant "It makes no sense. The inevitability of death robs life of its meaning." Without some reassurance of immortality the anxiety of living would be unbearable for most of us. It is the rare man who can afford to believe in his own death. Among prisoners awaiting execution it appears that only a small minority become actively creative and forge new patterns in an effort to survive. Most of them react in one of two typical ways, either with psychotic episodes or apathy. These seem to be extreme forms of the existential anxiety, the constant awareness of the inevitability of death, which existential philosophers assume to be the background against which human beings exist.

The Anxiety of Death

In my view however, it is rather that people exist generally in a matrix of defenses which provide a sense of security against this anxiety, and it is only when the defenses break down that the sense of security is lost and the death anxiety manifests itself.

The absurdity of death, the meaninglessness of life in the face of death, this feeling itself has meaning which needs understanding. A woman who had expressed this sense of the absurdity of life in the face of death was able to understand that these feelings had to do with her concept of her relation to God. This consisted of a pact: "I will be a good girl and You will reward me." But what kind of a reward is the inevitability of death? A great deal of the subject of theology has consisted of a search for the meaning of the punishment of death, an effort to undo the absurdity of such a covenant with God.

As soon as our remote ancestors became aware of their own activities as serving purposes, they made the conceptual leap to the conclusion that all events must serve purposes. Since things happened to people which were obviously not the result of their own purposes it was concluded that these must be the result of the purposes of others, accomplished through unperceived or magical means. Those others whose purposes affected one's life could be other people, or non-human forces personified as gods or as other beings.

In thinking of "meaning," as soon as we ask "purpose" we are forced to ask "whose purpose?" Since man's purposes might explain Life but could never explain Death, explanations of the meaning of Life and Death had to be in terms of the purposes of the gods or of God. Cassirer (1953) states "The conception that man is mortal, by his nature and essence, seems to be entirely alien to mythical and primitive religious thought" (p. 111).

Men have sought for the meaning in life as if it were a secret known by some omniscient power who had given to mankind the task of finding the answer. On this premise it becomes reasonable to ask "What are God's purposes for Man?" This quest provides meaning in life for those who have such a conception of God and man and a wish to discover and fulfill such purposes. For those who have no such conception then the question "What meaning is there in life?" tends to be an irrational, meaningless or unanswerable question.

But why should there be any more meaning in human life than in the existence of any piece of moon dust? Shall we think there must be meaning because there has been an evolutionary process which has included the development of humans on this little planet? Whoever wrote Ecclesiastes said it long ago . . . "For that which befalleth the sons of man befalleth beasts . . . , as the one dieth, so dieth the other! Yea, they have all one breath, so that a man has no preeminence above a beast. All go unto one place, all are of the dust and all turn to dust again." Yet man has developed the idea of meaning in his life, as part of the characteristic of human existence. Whether or not it is an illusion, we are bound to it, because, without the sense of meaning, life is experienced as not worth living. From the viewpoint of a disinterested observer the idea of meaning in life or death is an absurdity, but from that of the experiencing human being it is felt as a necessity and therefore a psychic reality with profound effects.

What produces the feeling that there is meaning in one's life? For one it is the fulfillment of bodily pleasures, for another status, power, or wealth, the adoration of the multitude, for a third it is satisfaction in work, an inner feeling of dignity, the fulfillment of moral and ethical ideals, for someone else a specific kind of relationship with another person or persons. For some it is the attainment of uniqueness, the rising above mediocrity, for others the feeling of being bound to a person or an integral part of a group. For the creative person it is the insistent need to fashion something with new meaning. For most people however, satisfaction in living and a sense of meaning depend on the fulfillment of a number of these in some proportion, and each man has his own specific constellation. Beyond all this, however, seems to be the universal human need to leave something behind to confer immortality, whether in the form of something material or as an idea or memory in someone else's mind.

Let us now ask what it means when someone says there is no meaning in his life. He usually means that the sum total of his feelings of pain, discontent, despair, apathy, boredom or failure are so much greater than his feelings of satisfaction, self-esteem and self-fulfillment that he questions whether life is worth living.

Each man has his own specific range of satisfactions and sufferings. When the sufferings overwhelm the satisfactions and seem to have no end, then despair drowns hope and one longs for death. Every anxiety contains the fear of death and every depression the longing for it.

The Search for Meaning

To recapitulate, the three requisites for the search for meaning I have already listed are 1. the development of language. 2. the development of super-ego. 3. the awareness of the inevitability of one's own death. The fourth requisite is the experience of suffering, loss or disillusion.

Frequently it has happened that I ask the meaning of death of a person who contemplates it with fear or longing or both. Almost invariably the answer is "Death is nothingness." This is a conscious rational conception. However, in my experience, in every instance where there has been an opportunity to uncover ideas and beliefs of which the person is less aware, without exception we have reached recognition that there is a phantasy of a continuation of some form of existence that reflects a belief in immortality. Everyone has had the phantasy of being an observer at his own funeral.

One woman insisted "Death can't be just nothing. I couldn't stand it if I thought I would just be gone and everyone else would go on living. It would be the worst kind of aloneness and I've already had enough of that kind of feeling in my life."

One man's picture of death was of getting beyond a wall, and for a long time he was unable to describe what was beyond the wall. Gradually he was able to recapture phantasies of an existence in which all desires would be fulfilled and there would be no failure, no disappointments, no rejection. In various forms this has been man's universal vision of paradise. The longing for death generally rests on a belief in the recovery of a lost paradise including reunion with loved ones who have died. All of this is epitomized in Bach's famous song, "Komm Susser Tod"—"Come, Sweet Death."

This is not necessarily a matter of religious faith or of conscious belief. It is a part of each person's phantasy, conscious or unconscious.

But what about the terror of death? If death is just nothingness and an ending, why be terrified? What is this state of nothingness, this void, that it is feared so? It is impossible to imagine the void of death, a state of immobility, of senselessness, without thought or phantasy.

We hold on to life so tenaciously because every moment of experiencing, every sensation, every movement, every thought, unless it is specifically painful, is accompanied by pleasure. This is why we can say "pleasure is the absence of pain." Just as the infant could not survive if it did not experience pleasure while sucking, so living depends on the constant stimulation of pleasure that accompanies every moment of waking life and perhaps even of dreaming. I believe that it will be found that all brain activity has some reverberation into the so-called pleasure or reward areas, and that this provides the biological basis for the love of life and for the preciousness of the awareness of self, the narcissistic self-love which become the base-line of motivation as soon as the self differentiates.

Many people say they fear death because it is the unknown. Yet the unknown can be approached with pleasurable excitement as well as with fear. A rational approach to the unknown is with a combination of curiosity and caution. When it is approached with eagerness or terror it is not the unknown. It is the materialization of our unconscious phantasies, our anticipation of ecstasy or horror. William Butler Yeats (1963) wrote:

> Nor dread nor hope attend
> A dying animal;
> A man awaits his end
> Dreading and hoping all;
> . . .
> He knows death to the bone —
> Man has created death.

The anticipation of the panic of suffocation during the process of dying or in the coffin is one form of the dreaded phantasy of death or dying. Another is the unending suffering of the most extreme pain one has ever experienced or can imagine. For many people burns have constituted the severest, most desperate agony of their lives. This is one of the reasons why we picture hell as a place of fire. Also, of course, fire is one of the most universal methods of purgation.

Death also connotes the impossibility of the fulfillment of desire. Eternal frustration is agonizing. In life it leads to rage and violence, destruction either of the world or of oneself. When this is impossible then comes hopelessness, despair, insensate living. In Dante the eternal suffering of Tantalus represents this state of death. Tortured by thirst, he stands to his chin in a pool of water, but the instant he lowers his head to drink the water vanishes. Trees bow their branches offering fruit, but when he raises his arms the winds whirl them out of reach. All the most horrible tortures of living were contained in Dante's Inferno. Satan did not have to invent anything new. Man knew them all.

Death Is Never Just Death

The death we fear is eternal suffering or never-to-be-satisfied desire. This is hell, and each person has his own private unspeakable version. So we can say that Death is never just Death. In our unconscious phantasies it is both Heaven and Hell, regardless of whether or not we consciously believe in such concepts.

There is an exception to the generalization that the longing for death is for a lost paradise. There is also the seeking for death out of remorse or guilt and the need for punishment. When death is the only acceptable penance one consigns oneself to hell and commits suicide.

Even where there seems to be some rationale for wanting death there are always unconscious elements which contribute their share of motivation. Some fatal illnesses include their own euphoria and become part of the person's tragedy. A friend of mine, a man of 42, a psychoanalyst, wrote me as soon as he found out he had an inoperable malignancy. He described the euphoria that had come over him with the knowledge of his approaching death. Apparently his euphoria did not last long. Some months later when I visited him after my return from military service I saw an "orgone" box in his bedroom. An "orgone" box, as you may know, is the miracle coffin invented by Wilhelm Reich as a preventive or cure for fatal illness. One month later my friend died. The knowledge of an inoperable malignancy could rationally be accompanied by a wish for death. But his euphoria was a manifestation of his unconscious longing for paradise. His final turning to the "orgone" box showed that his rational judgment had been overwhelmed. In that miracle coffin he found both — death and immortality.

If we recognize that for everyone death is simultaneously heaven and hell then we can get some understanding of the universal ambivolence towards death and towards life.

There are some people who can approach death without longing or terror. They are the ones who have had their satisfactions in life, who approximated their own ego ideals and had lived so that they expected neither rewards nor punishment.

"Todestrieb"

At this point I would like to correct a very common misconception which appears even in psychoanalytic literature. Freud's "Death instinct" has nothing to do with the longing or the wish for death. His term "Todestrieb" which is translated unsatisfactorily as "Death instinct" is an impersonal force which, together with Eros, the life-force, he conceived as affecting all living matter. Freud (1940) wrote "After long hesitancies and vacillations we have decided to assume the existence of only two basic instincts, *Eros* and *the destructive instinct.* The aim of the first of these basic instincts is to establish ever greater unities and to preserve them thus — in short, to bind together; the aim of the second is, on the contrary, to undo connections and so to destroy things. In the case of the destructive instinct we may suppose that its final aim is to lead what is living into an inorganic state. For this reason we also call it the *death instinct*" (p. 148). Perhaps Hegel foreshadowed the concept of the "death instinct" when he wrote "The nature of finite things as such is to have the seed of passing away as their essential being: The hour of their birth is the hour of their death." (p. 142).

Man uses many methods in his attempt to master his anxiety about death. The simplest form is plain denial. Euphemisms must be used in talking about it. There are all sorts of variations of the denial of death; beliefs in the resurrection of each individual's body, in the infinite existence of each soul or spirit, in reincarnation into the body of some other human or other living thing, or in recent writings heralding the imminence of man's ability to prolong his life indefinitely. Man can find justification for believing anything he wants to believe. The mastery of the fear of death is a common thread in the content, the beliefs and the rituals of most, if not of all, religions. We spend our lives making magic covenants to escape death.

Identification with Death

I am proposing now another method of mastering the fear of death — a process which, so far as I know, has not heretofore been described: "identification with death." This is modelled on the defense-mechanism of "identification with the aggressor." A victim of aggression tends to become like the aggressor, he attempts to do to others what has been done to him. In myth, in poetry, in art, in dreams, in our conscious and unconscious fantasies, death is anthropomorphized as the Angel of Death, the Grim Reaper, Moloch, The Black Figure, The White Goddess, The Devouring Beast, etc. One way to master the fear of death is to become oneself an embodiment of death by identifying with one of these figures. Identification takes place through the symbolic process of incorporation, the actual taking of a substance into the body, or through introjection, the psychic equivalent of incorporation. Part of the meaning of ritual cannibalism was to incorporate the desirable qualities of the victim in order to identify with him. Some months ago there was a TV film about wolves. In one scene a hunter was seen "wolfing" down the raw flesh of a wolf he had just killed.

Wolves, like all beasts of prey, are killers, symbols of death. To eat the flesh of a wolf is to become like it, a killer, a master of death. Training soldiers to become killers is a necessary element in the process of diminishing their fears of being killed.

A variation on this theme of mastery of death by identification with it is the counterphobic suicide who conquers his fear of death by becoming his own Angel of Death.

I believe this mechanism of identification with "death the killer" may help to explain some apparently unmotivated or indiscriminate killings.

This is part one of Dr. Marcovitz's paper: Man in Search of Meaning. A second installment, Hallucinogenic Agents, will appear in a subsequent issue.

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Elevated Cerebrospinal Fluid Glutamine and Hepatic Coma

Lawrence Virgilio, M.D.

CSF Glutamine

The clinical signs of hepatic coma are not always specific, and arterial ammonia determinations which have been used as a diagnostic aid are difficult to perform and interpret. Elevated cerebral spinal fluid (CSF) glutamine has been found to provide useful information in the diagnosis of hepatic coma, and elevation may be considered pathognomonic of hepatic coma.[1-4]

The purpose of this study was to measure the CSF glutamine in a variety of patients, to establish its normal range, and compare it with the levels found in patients with hepatic coma.

Materials and Methods

Patients selected from the Wilmington Medical Center, Delaware Division, from October 1970 to April 1971, were divided into four clinical groups. The first group (eight patients) had no liver disease and were undergoing spinal anesthesia for elective minor surgery. These patients served as the control group. Group II consisted of three patients who were comatose for reasons other than liver disease. Group III was made up of three alcoholics with cirrhosis but no coma. Group IV consisted of five alcoholics with cirrhosis and hepatic coma. Diagnosis was confirmed by elevation of liver enzymes, serum bilirubin, serum ammonia and autopsy findings.

Glutamine Determination

A modified version of the Whitehead and Whitaker[3] chemical methods was used.

> Hydrolyze 1 ml of CSF with 0.2 ml 10% H_2SO_4 for 10 minutes in boiling water bath. Cool, add 0.3 ml 10% NaOH. Add to this sample equal volumes of 10, 20, 30 and 50 mg% stock solutions of glutamine prepared as above, 5 cc of water and 2 cc Nessler-Reagent. Read the optical density of all the solutions at 250 $m\mu$. Draw the calibration curve and determine the concentration of the CSF glutamine from the optical density.

Results

Group I (Control)

The level of CSF glutamine ranged between 12.5 and 18 mg per 100 ml with a mean value of 16. None of these patients showed clinical or laboratory evidence of liver disease. Figure 1)

Group II (Coma, Non-Hepatic)

The CSF glutamine for the three patients in this group ranged between 18 and 20 mg per 100 ml. In one patient, coma was secondary to brain damage following prolonged cardiac arrest, in another it was secondary to a cerebral thrombosis, and in the third it was

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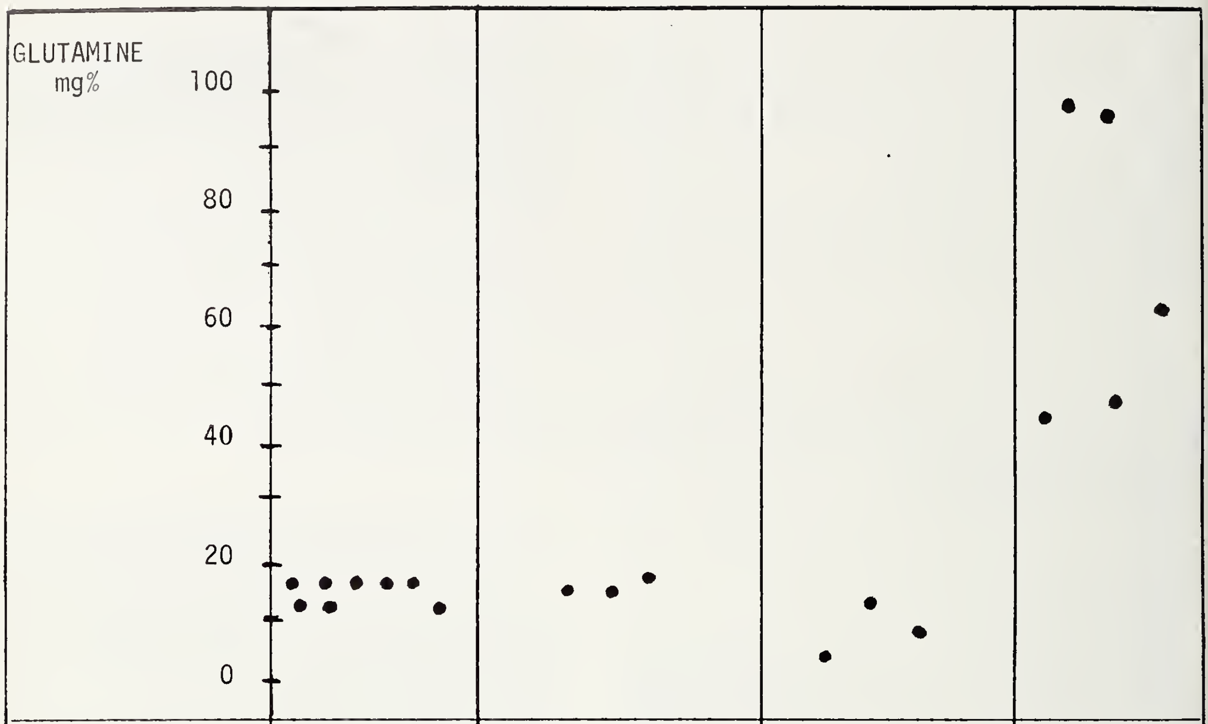
Dr. Virgilio, formerly an intern at the Wilmington Medical Center, is now a first year pathology resident at Duke University Medical Center.



	Controls	Coma - Not of Liver Orgin	Alcoholics Cirrhosis	Hepatic Coma
No. of Cases	8	3	3	5
Range mg%	12.5-18	18 - 20	6 - 16	45 - 95
Mean mg%	16	18	12.5	67

Figure 1. Glutamine levels in 19 patients.

secondary to a subdural hematoma. (Fig. 1)

Group III (Non-Comatose Alcoholics)

The range in this group of alcoholics with cirrhosis was from 6 to 16 mg per 100 ml with a mean value of 12.5. (Figure 1)

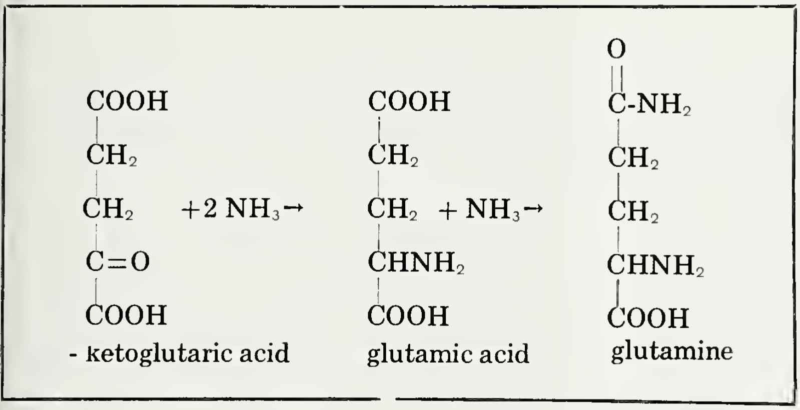
Group IV (Hepatic Coma)

The five patients in this group showed marked elevation in the levels of CSF glutamine ranging from 45 to 95 mg per 100 ml with a mean of 67. In three of the five patients in this group simultaneous blood ammonia was determined and was ascertained to be 158, 240 and 62 mcg per 100 ml. One patient, who demonstrated only mild lethargy on admission, had a CSF glutamine level of 17 mg per 100 ml. Later he developed coma with a subsequent rise in the CSF glutamine to 95 mg per 100 ml. (Figure 1)

Discussion and Summary

As liver cells progressively fail to function, ammonia and ammonia byproducts begin to accumulate. Since ammonia can pass the blood-brain barrier, an excess causes an interruption of the Krebs cycle by combining with the α-ketoglutaric acid to form glutamic acid and subsequently glutamine.[2] (Figure 2)

With the development of a simple chemical



$$\begin{array}{l} \mathrm{COOH} \\ | \\ \mathrm{CH_2} \\ | \\ \mathrm{CH_2} \\ | \\ \mathrm{C{=}O} \\ | \\ \mathrm{COOH} \end{array} \; +2\,\mathrm{NH_3} \rightarrow \; \begin{array}{l} \mathrm{COOH} \\ | \\ \mathrm{CH_2} \\ | \\ \mathrm{CH_2} \\ | \\ \mathrm{CHNH_2} \\ | \\ \mathrm{COOH} \end{array} \; + \mathrm{NH_3} \rightarrow \; \begin{array}{l} \mathrm{O} \\ \| \\ \mathrm{C\text{-}NH_2} \\ | \\ \mathrm{CH_2} \\ | \\ \mathrm{CH_2} \\ | \\ \mathrm{CHNH_2} \\ | \\ \mathrm{COOH} \end{array}$$

Figure 2

assay for CSF glutamine, it is possible to determine glutamine levels rapidly. The results obtained in this study confirm observations made by others.[1-5] Glutamine levels in CSF were significantly elevated in hepatic coma; normal values for CSF glutamine ranged between 12 and 18 mg per 100 ml, and in coma the levels were from two to seven times elevated.

There was insufficient data to correlate levels of glutamine and the depth of coma, although this was suggested on one patient.

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Letters to the Editor

To the Editor:*

Dr. Parrish has so little respect for female intelligence, that he wishes to delegate the lesser tasks of medical care to women, in order to "free-up" the superior male physician for the interesting, thought-provoking, decision-making tasks for which he is trained and, by implication, eminently more qualified.

Having met with very little discrimination in my pursuit of a full-time career, happily combind with being a wife and mother, I have felt little compulsion to join my less fortunate sisters in a quest for liberation.

I am active in my community attempting to create the career ladder in health Dr. Parrish so eloquently describes. I feel the career nurse has long been relegated to jobs beneath her ability and training and hope that, in elevating her status and income potential, we can fill the void she creates with a few men, such as the ex-medical corpsmen. They are partially trained and would be eminently qualified to do some of the lesser tasks that now burden our well-trained nurses.

Stop relegating women to paramedical, paralegal, and secretarial jobs! We are on the threshold of a new era and our younger sisters are not going to tolerate being fitted into the old pattern of less interesting jobs.

MARJORIE J. MCKUSICK, M.D.

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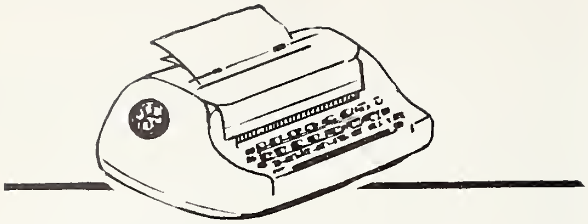
*Journal of the American Medical Women's Association 26:529, 1971 commenting on an article, *Women in Medicine,* from the July issue of the same journal.



Special Reports

COMMISSIONS ON PUBLIC & SCIENTIFIC AFFAIRS, Medical Society of Delaware — Jan. 15, 1972

Doctor Herbert M. Baganz opened the meeting with the comment that the Commissions on Public Affairs and Scientific Affairs are integral parts of the Medical Society of Delaware. The purpose of the meeting is to review plans and programs for 1972 and determine how we can move forward and get things accomplished. In setting up a definitive plan and a course of action, we must take into account such factors as goals and objectives, priorities, problems, needs and concerns.

In order to achieve our objectives, we must coordinate the work of the State Society, the specialty societies, the county societies, and individual physicians.

Communications

Doctor Thomas Vates Jr. reported for the Public Relations Committee that the Society's two standing public relations projects—the radio program "Ask the Doctor" on WDEL and the Boy Scout Explorer Post—continue to enjoy a good reception. Improvement of the medical profession's image is a difficult and on-going task, it was pointed out. Doctor Baganz commented that the physicians have dropped the ball and have done little to solve primary health needs; this is a major Society problem.

Doctor Rhoslyn J. Bishoff commented that we should have a more direct line to the news media and be alert to opportunities for sending in news. Doctor Baganz added that with the enlarged Society staff, we should be able to structure more public relations material.

In his report on Publications, Doctor Flinn emphasized that both the *Journal* and the *Newsletter* are and should be conduits for information inside the Society. He commented that there should be a closer tie between the *Journal* and the Public Relations Committee. The editorial pages of the *Journal*, he noted, can make a good or bad press.

* * *

In the absence of Doctor Olin S. Allen because of illness, Doctor Baganz noted that the Medical Economics Committee is hard at work considering re-evaluation of the retirement program of the Medical Society of Delaware, the disability income program now sponsored by the various County Societies and the State Society, and the feasibility of a group life insurance program sponsored by the State Society. It was proposed that if the decision is made to switch from PRO, the cost of making the change as well as the length of time needed to recoup the loss should be made known to physicians participating in the program.

* * *

In Doctor James B. McClements' absence, Doctor Baganz reviewed the major features of the Society's new Liability Insurance program with Aetna Life & Casualty. He pointed out that the program is guaranteed to be available through Aetna for at least five years with an annual review of rates, that provision is made for review of potential claims, that legal counsel is provided at no expense to the physician, that any Aetna agent in Delaware can sell the program, and that Rodney Layton, Esq., is the Aetna attorney.

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Doctor James P. Aikins, in his report on the work of the Woman's Auxiliary Advisory Committee, stressed that the Auxiliary was anxious not to be regarded as a mere social group. As examples of the programs they are conducting, he cited their program of care for children of families summoned to Family

Court, finding foster grandparents for mentally retarded children, helping in the training of "Candy Stripers," and the purchase of filmstrips and books for pediatric patients.

Peer Review

The report of the Peer Review and Professional Evaluation Committee by Henri F. Wendel, M.D. listed as its projects: 1) Further explanation of the concept of peer review as an overall, umbrella-type mechanism, including medical practice analysis, practice pattern exploration and development, and claims review; 2) formation of an executive committee composed of the state chairman and the three county chairmen; 3) formation of peer review committees within the various medical and surgical specialty groups to serve as reference people when needed; 4) development of adequate sources of input into the peer review system.

Doctor Baganz commented that Peer Review is becoming more mature with less emphasis on third party. Peer Review, he stated, should be a statewide quality control organization covering hospitals, nursing homes and other health care facilities. It should deal with patterns of practice, not personalities. Specialty groups should determine what are patterns of practice and try to avoid dealing with personalities as little as possible. Peer Review should be an educational rather than a punitive effort.

The Medical Society of Delaware should contract to do peer review for a Health Maintenance Organization, Doctor Baganz stated. The Society should seek to build a statewide data base; the duPont Company is willing to assist by letting us use their computers and programmers for such a data base. The Medical Society of Delaware should assume the leadership role, not Blue Cross-Blue Shield.

* * *

Continuing Education, as cited in the report by William H. Duncan, M.D., involves Jefferson Medical College, the University of Delaware, DIMER, and ourselves. Particular attention on continuing education is being directed at physicians in Kent and Sussex Counties: 60% of the "faculty" is being provided by the Medical Society and 40% by Jefferson. A Documentation and Certification Program is now under consideration. The Committee is also striving for a single calendar of all meetings on continuing education which would be published in the *Delaware Medical Journal.*

The Committee on School Health is aiming for better health education in the schools. Programs are implemented at the individual school districts even if approved at the state level. Administrators want to know who will do the educating and how it will be done.

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The report of the Committee on Medicine and Religion, presented by Reverend Lynwood Swanson, Chaplain of the Wilmington Medical Center, indicated progress on several fronts. The first Annual Prayer Breakfast was held last October; the second will be next October. The Chaplain's sermons on "Death and Dying" have been well received, as has the "Surgeon's Guide to Pastoral Care" prepared for the Annual Convention of the American College of Surgeons.

Task Force Efforts

The Health Care Delivery Committee, chaired by Doctor Henry H. Stroud, has a continuous program of planning improved methods for delivery of health care and is encouraging more physicians to become involved in the efforts of the following Task Forces: Population Growth and Control; Career Development; Education, Supply and Distribution of Physicians; Comprehensive Health Care Centers; Aging; Ambulatory Health Care Facilities; Extension of Hospital Facilities into the Neighborhood; Establishment of Prepaid Medical Practice; and Communications. Doctor Stroud mentioned his conviction that, now that physicians' assistants have been approved for Delaware, some guidelines or regulations need to be devised for these people.

* * *

Doctor William D. Johnson, chairman of the Committee on Maternal and Child Care, reported that this is a growing area of concern, exerting an ever larger impact on the total health care picture. Statistics are being accumulated on neo-natal morbidity and mortality; it is more difficult to obtain maternal statistics. The Committee is aiming for a ten-year cumulative set of statistics this year. The Delaware Adolescent Program is now reporting on about 40% of the ward patients. The Wilmington Medical Center-Jefferson program has had more impact on the pediatric and ob-gyn departments than on any other. Venereal disease remains a real problem. The abortion law has had an impact in Delaware. Liberalized abortion has had its effect on the number of children available for adoption. Most Delaware abortions are performed out of state. The drug problem remains an acute one, especially with regard to babies born to addicts. Rubella hemagglutination inhibition testing is now done on the first prenatal visit. Doctor Johnson questioned whether rubella tests should be required by law.

A motion was made and passed to commend Doctor Margaret I. Handy on her long years of work in the maternal and child care field on the occasion of her recent honor of an honorary fellowship bestowed by the College of Physicians of Philadelphia.

The question was raised as to the superfluous information sought on the new form of state birth certificate. It was agreed that its excesses are apparent.

* * *

A report submitted by David L. Schafer, M.D., Chairman of the Rehabilitation Committee, presented a list of ways in which the Committee could assist the Division of Vocational Rehabilitation, such as assessing problems of physicians in utilizing the vocational rehabilitation program or in co-operating with the disability determinations program; advice on such disability areas as strokes, alcoholism, drug abuse, and cerebral palsy; support for funding of rehabilitation programs within the state and federal governmental establishments; assistance in long- and short-range planning for vocational rehabilitation programs and facilities. Doctor Schafer pointed out that the Division of Rehabilitation in Delaware has changed rapidly during the last quarter of 1971 when the program was extended to include Vocational Rehabilitation services to Delaware public assistance recipients.

Position on Pollution

Doctor Frank T. O'Brien, in his report for the Environmental and Public Health Committee, urged that the Medical Society of Delaware come up with a position paper on air and water pollution, solid waste disposal, etc. Doctor Stuart W. Rose suggested the addition of noise abatement, although he took note of the fact that public apathy is great.

Doctor Baganz commented that a lack of communication and a "stand-offish" attitude on the part of the medical community remain formidable problems in the public health field. He noted, for example, that doctors should get involved in planning for the Emily P. Bissell Hospital and other programs. The removal of the indigent criterion should help pave the way for a more flexible "open staff" policy and help to enable the integration of the Veterans Administration Hospital, the A. I. duPont Institute and other facilities into the overall medical complex. This step, in turn, should aid the development of a more comprehensive plan for health care. All state and county agencies should be brought into the picture with more emphasis on preventive medicine.

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In the absence of Doctor Joseph A. Glick, Chairman of the Committee on Drug Abuse, Mrs. Shane reported that the 200 replies received thus far on the questionnaire sent out to physicians indicate that they are about equally divided on the subject of drug abuse.

Public Laws Action

The basic function of the Public Laws Committee, as outlined by Chairman Allston J. Morris, M.D., is to keep tabs on medical legislation in Dover and advise the Board of Trustees whether the Medical Society of Delaware should support or oppose it. Experience has shown that it is preferable to take action before the bills get into the hopper. The principal piece of legislation of concern at the moment is what to do with certificate of need-rate review. There is such a great ferment going on in medicine today that we have chosen to concentrate our efforts on state legislation and leave that of a national nature to such bodies as the AMA.

House Ponders Formulary

The Formulary Advisory Committee, chaired by Vincent DelDuca, Jr., M.D., reported that although the voluntary formulary legislation is out of committee in the House in Dover, it has not yet been voted upon. The question has been raised as to what is the precise motivation of the Delaware Pharmaceutical Society in pushing for passage of this bill. Doctor Rhoslyn Bishoff commented that we should provide an estimate as to what the cost of the bill will be; this may serve to defer the legislation. There is a possibility that we may be able to arrange for a meeting with Representative Little and Senator Conner so that they can get some physician input on the subject.

Prepayment Controversy

In one of the most thought-provoking sessions of the meeting, Doctor Joseph E. Belgrade, Chairman of the Prepayment and Medical Review Committees, described the past decade as being nothing short of tumultuous in the area of medical prepayment. More Government controls, an ever-growing bureaucracy, and the advent of Phase I and Phase II (perhaps Phase III soon) signal that medicine may never return to the free-price structure prevailing before August 15, 1971.

The pending contract between the Medical Society of Delaware and Blue Cross-Blue Shield deserves careful scrutiny before signing, Doctor Belgrade said. We should notify Blue Cross-Blue Shield that we accept the contract in principle but with reservations, especially since all parts of it may not be legally enforceable. We should step carefully and seek legal advice. We are not even sure whether the agreement of 1966 has ben suspended under new government controls.

Doctor Belgrade suggested that the Medical Society of Delaware should consider withdrawal from service-type contracts and/or advise individual physicians. There are, of course, certain benefits to be derived from Blue Cross-Blue Shield (e.g., assurance of payment), but there are disadvantages that can outweigh the advantages. Some doctors may be better off out of service-type contracts; others may not. It is an individual matter.

* * *

The Budget Committee report, in the absence of Doctor Alfred E. Bacon, was presented by Conley L. Edwards, M.D. It was pointed out that at the last House of Delegates meeting, on the recommendation of the Budget Committee a dues increase was considered and approved. With this extra income, the recruitment of additional help should enable the staff to handle its many responsibilities with less strain. Present staff have been granted a salary increase and a change in fringe benefits. A recommendation for an honorarium to the President of the Society was turned down by the House of Delegates.

* * *

The Medical Loans Committee, previously called the Scholarship Committee, and chaired by Doctor Gordon Keppel, has as its major goal the assistance of persons being trained for the medical profession. Its chairman serves on the Delaware Academy of Medicine Loan Committee.

* * *

The Medico - Legal Affairs Committee, headed by Doctor Martin Gibbs, is set up to handle affairs between doctors and lawyers in malpractice suits and is a joint effort of the Medical Society of Delaware and the Delaware Bar Association. A medical-legal symposium will be conducted by the Medical Society of Delaware and the Delaware Bar Association in June.

As an offshoot of consumerism, there has been a great change in public attitude that bears on the relationship between doctor and patient. The education of juries in malpractice cases that do come to court and the possibility of evolving "no fault" insurance loom ahead. Focal point of attention at both the local and national levels is that of exploring and exploiting all feasible alternatives to court, such as arbitration.

Here in Delaware, the joint screening panel of the Medical Society of Delaware and the Delaware Bar Association hears cases and rejects non-meritorious claims. The panel now covers osteopathic physicians as well as M.D.'s.

* * *

The By-Laws Committee under Doctor John H. Furlong has as one of its prime objectives the reduction of duplication of committee work at different levels. It is also studying ways and means of making function easier for all concerned.

Guest luncheon speaker was Mr. Kenneth Bugan of the AMA field staff. He spoke on the activities being conducted by other state and county societies in New York, Connecticut, and New Jersey, the other states within his realm of responsibility, although an obvious difference of size exists between them and Delaware. Mr. Bugan noted that Delaware's accomplishments could be compared favorably with the state societies in Connecticut, New Jersey, and New York.

* * *

ABUSE OF THE ELECTROCARDIOGRAM

From time to time, changes in medical practice force us to focus upon and to re-examine traditional procedures in the field of laboratory medicine. . .

A vast change has taken place in the use of laboratory procedures within the last few decades. Before World War II, the physician was accustomed to select only those tests which might serve to confirm or to reject diagnostic possibilities which had arisen in a particular clinical setting. Generally, a "complaint" problem provided the impetus to seek contact with the medical profession. Since the war, an increasing deluge of laboratory data, much of it accumulated outside of the traditional clinical settings, threatens to inundate channels of medical communication. In the former era, both high cost and intellectual pride served to encourage economy and pertinence in the choice of laboratory tests for a given complaint situation. However, the emphasis has shifted from the patient with the complaint to the study of large groups of apparently well people. The interest in the prevention of disease and its early detection before the onset of symptoms has changed the picture drastically. Improvements in technology have lowered costs and have simplified the collection of data in large population groups. Wider application of screening procedures promises to add still further to the flow of information. There is a great challenge to be met in the proper use of these data. The *petit papier* of this age of anxiety is coming more and more to take the form of computerized "readout" of a group of unusual chemical findings or of an ECG with some type of anomalous feature . . .

The interpretation of anomalous or frankly abnormal tracing in apparently well persons who are being screened for one purpose or another requires the utmost discretion. The ECG is indeed abused if a person's livelihood, insurability, or self-confidence can be prejudiced by overinterpretation. There can be no compromise with the requirement that anomalous and abnormal findings be reported in such a way as to provide physician and patient with a discriminating and properly phrased report, with due respect for the uncertainties inherent in electrocardiographic interpretation.

(By permision from Abraham Genecin, M.D., "Abuse of the Electrocardiogram," *Current Medical Digest,* 35:777-790. Copyright, The Williams & Wilkins Co., Baltimore, Md.

Editorials

THE RESPONSIBILITY OF THE PHYSICIAN FOR THE HOSPITAL

While the delivery of publicly funded health care is within the province of, and should be the obligation of, designated governmental and private agencies, the ultimate responsibility for the delivery of health care rests with physicians. Physicians unfortunately have been almost solely concerned with the art and science of health care, leaving the supervision and overall delivery of publicly funded care in the hands of municipal governmental agencies, administrations, and administrators. Yet this laissez-faire attitude is unreasonable and is inconsistent with the physician's basic approach to his profession. Accuracy, logic, and scientific methods are blended into the medical student and reinforced in the house officer. The physician makes exquisite efforts daily to favor accurate medical diagnosis as well as efficient and scientific performance. It is fitting and just that such efforts be taken in the practice of medicine, since life, death, disability, and suffering are in the balance. How then can the physician accept the gross distortion of his diagnostic efforts, the dismemberment of therapy, and the dehumanization of his patients which come with poorly financed, inadequately staffed, and mismanaged hospitals? How can the physician permit the synthesis of profound background knowledge, experience, and astute clinical judgment brought to bear in a trying and critical clinical situation to be entirely lost because a laboratory specimen is mishandled, a roentgenogram not taken, or because of insufficient nursing attention and surveillance?

The general public has been characteristically less concerned about hospitals and health care in general than about welfare and education. The use of public educational and welfare facilities is foreseeable by large segments of the urban population whereas their use of hospital facilities is not readily anticipated. Budgetary and political considerations and manipulations concerning hospitals are less likely to attract public attention than problems involving police protection, fire protection, education, or sanitation. It must thus be the physician who should become keenly aware of developments affecting the public administration of health care. The physician must act as a guardian of quality health care for his patients, for in many situations he may be the sole guardian of the health rights of his uninformed or disinterested patients.

In an era in which enormous changes in health care are imminent, who is to decide among the various programs being suggested for hospitals and who must assume the major responsibility for ensuring ideal patient care? It is our contention that although the community should theoretically, and indeed practically, make the decisions about the kind of medical care it wants and how much it wants to pay, it is the physicians staffing these institutions who have the knowledge to influence these decisions and to implement them, and who have the responsibility to use this knowledge constructively, compassionately, and decisively.

Hospital physicians must feel the responsibility to create an institutional framework in which they can exercise their medical judgment and skill in accord with the highest standard of medical care attainable. They can best succeed in this endeavor by organizing into a compassionate, concerned, and politically sophisticated body to join with community forces in ensuring that the hospitals evolve in a socially and medically beneficial direction.

Gerald E. Thomson, M.D.
Seymour M. Glick, M.D.

Adapted from "Municipal Hospital Patient Care," *Archives of Internal Medicine,* Vol 126, October 1970.

⁂

THREE BIG IDEAS: THE McNERNEY REPORT

Recently released by HEW, which commissioned the preparation of a review of the deficiencies of Medicaid and related federal programs, the "McNerney Report" makes 125 recommendations for alterations in the present systems of health care in the U. S.

1. "The first big idea is that all consumers should have access to health care without hardship or humiliation and as far as possible with some voice in how it is planned and some choice of how it is furnished.

2. "The second big idea is that the health-care delivery system cannot function effectively in response to consumer demand and provider self-interest but must be planned and managed so that the terms and conditions of payment shall have a powerful impact on the way the services are organized and delivered.

3. "The third big idea is that the whole has to be more than the sum of the parts: The health service system must be more than the aggregate of all the personal transactions among consumers and providers. If the capacities are to be increased in keeping with demand and effectiveness improved in keeping with responsible practice, the system must have a guiding intelligence — not laid on from outside but designed and ingrained into the way the system operates.

4. "If a benevolent and affluent Government were to begin to pay for all the basic health care needed by all those who can't pay themselves — but no other changes were introduced into the existing system — the result would be a disastrous rise in the cost of services that are already scarce."

There is some skillful sugar coating of the rhetoric here: much of what is being recommended will, if and when enacted, actually be a bitter pill for the present "providers" (read, *us doctors*) whose "self-interest" is impeding effective function of present health-care delivery systems. Allowing all consumers (read, *our patients*) as much voice as possible in the planning of health care systems is also a sweetened way of saying patients are going to have some say in running the business and the doctor is not likely to be the supreme commander of the total system.

The big if, to our way of thinking, is whether the government, when it assumes the role of "guiding intelligence — not laid on from outside but designed and ingrained into the way the system operates" will really be able to do any better and for any less money.

B.Z.P.

* * *

MORE GP's FROM HARVARD?

There is much talk these days of reconstructing the medical care system in this country to provide total or almost total government-subsidized funding for medical care, not just for the poor and near poor, but for everyman. There is no parallel talk of forcing physicians to enter those specialties which are in shortest supply, although this type of coercion would at first glance seem to be easy if the total medical purse strings are Uncle Sam controlled. However, experience in other countries where medicine is largely funded by the central government has not shown that the general practitioner is any happier or any less scarce than when he works fee for service; rather the opposite seems to be true.

From the viewpoint of our own years in private practice, and our views of the lives and fortunes of colleagues more totally specialized than we have been, it is obvious that there is a great deal more money and infinitely more prestige in specialty medicine than in general medicine. The specialists make a lot more money and often work shorter hours. In addition to the more money and more prestige advantages, there is also the advantage that the specialist is not necessarily expected to be immediately available on nights or weekends; he may be but he need not.

It was therefore highly surprising to me to examine the pattern of the career choices of last fall's freshman class at Harvard Medical School compared to the pattern of the freshman class preceding it four years before.[1] Although the percentage of the class which planned on eventual part-time faculty affiliation with its alma mater remained nearly the same — about 30% — the percentage of students who planned a full-time medical school career declined from 33% to 16% and the percentage planning to enter "family practice" increased from 3% to 22%.

I have no idea whether this pleasant if startling trend represents far-sightedness on the part of the financial advisors to the admission committee, advisors who saw that government money for medical school faculties was soon going to have to be got from sources other than research grants, and schools preparing clinicians would soon be more favored by the grant bestowers. I hope this is not the case. And since Harvard is almost as rich as she is great, it is probable, though not certain, that this type of ulterior fiscal planning was not at the root of the change in the aspiration pattern of the freshman classes of '69 versus '73.

So it would appear that the pool of young adults from whom the medical students were chosen now includes more who aspire to clinical medicine.

We earnestly hope that at least most of them will finish their four years with the same choice: men instead of molecules, service instead of status. If they do not, then a hard look at the training models presented to them within their four years' curriculum will be in order by the faculty funders. For money and prestige notwithstanding, we are graduating from our undergraduate colleges young men and women whose generation gap includes a somewhat lower order preference for glory and money; they wish to be physicians. If their ambitions are diverted during medical school, we think it would be, most literally, a crying shame. *B.Z.P.*

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1. Funkenstein DH: Harvard Medical Alumni Bulletin 44:26, 1970.

* * *

CHAM Anyone?

We are sure that there are many physicians whose psychiatric taxonomy is limited to the terms psychotic, neurotic, and reasonably normal. Or expressed somewhat differently, schitz, kook but non-schitz, and, normal like me.

Having struggled in my salad days with the problems of the hebephrenic versus the catatonic and a distressing and possibly terribly revealing personal tendency to classify as real sick, sort of sick, sad sick, sick like a fox, and sick like the boy who saw the emperor was really naked, it comes as somewhat of a bemusing surprise to realize that psychiatrists are still arguing about this sort of thing. CHAM, a new method for classifying the psychiatric states, stands for, would you believe, *Consistent Hierarchical Arbitrary Monothetic.* Monothelite in my dictionary is followed by monotint, so I cannot explain to you what monothetic means, nor, for that matter, anything else about the system. CHAM is the name of the game, and also of the book by Silberman and Beenen just published by the Excerpta Medica Foundation. It's only 110 pages, costs $8.75. It is not on my list of the books I want for my birthday.

B.Z.P.

* * *

CIRCUS OF CIRCUMLOCUTION

A recent letter on the editorial page of The Times complained about the use of the simple word "demonstrating" to apply to rioting, trespass, arson and the like and added, "Before long at the present rate they will refer to a boy who shoots his father or pushes his mother off the roof as simply 'expressing himself'."

Euphemisms are probably as old as the language — but the madness of Madison Avenue, the lullabies of Pentajargon and the posturing of pedagogues and scientists, combined with the rapid rise of communication methods, have caused euphemisms to proliferate at a greater rate than ever before. Oddly enough, all this has produced an age of paradox. On the one hand we are completely explicit and down to earth (if not a bit lower) in displaying and talking about the structure and functions of the human body and about the unsuppressed desires of youth. On the other hand, in matters of government, diplomacy, communal relations and economics we are hardly ever really explicit, we rarely say what we mean.

Theodore M. Bernstein, New York Times, August 3, 1969.

MULTIPLY OR PERISH

The choice is clear. Either the Delaware Academy of Family Physicians increases its membership, or we are done for as a viable force in Delaware medicine. All of you know what is happening every year:

1. We are getting older.
2. Some of us are retiring outright.
3. Some are restricting our practices.
4. Some are wandering off to specialty residencies.
5. Some are going into industrial medicine.
6. Most of the interns are going into specialty residencies.
7. We are sad.
8. Dene Walters and his now-approved Residency in Family Practice are trying, but more help is needed.
9. HELP!
10. We had better sign up as members those GP's in Delaware who are eligible, but who are not in the fold.
11. HELP!
12. Work on eligible non-members to get them to join.

There is a move afoot in the Washington Medical Center for "controlled staff, balanced staff, and/or planned staff." HELP!

Membership Chairman

David Platt, M.D.

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President's Page

YOUR PRESIDENT'S LAUNCHING

March 1, 1972 starts a new era in my career upon assuming the position of the Secretary of Health and Social Services for the State of Delaware and Governor Russell W. Peterson. I sincerely desire your continued support and assistance in successfully fulfilling the responsibilities of this position.

I propose to further increase the *planning* activities of this department; to *review* the current programs and operation of the department; and to *demonstrate* that, through good government, achievements for our mutual benefit and welfare can be accomplished.

Planning is needed to determine our goals and objectives as well as to find methods to meet the increasing demand for services. This will require shifting our priorities or finding new sources of revenue to properly fund the kind of effective programs which the public expects. Programs need to be correlated without the duplication and inefficiency made intolerable by our limited resources. Governor Peterson has stimulated the State Comprehensive Health Planning Council to become more effective and useful. The Governor has been instrumental in the exciting, new, and innovative concept that is a first for Delaware with the Health Services Authority. Associated with this is the recent achievement of a separate Regional Medical Program for Delaware.

The *review* of the operations of this department requires multiple sources of information concerning the exploration of new methods or solutions to problems; the determinations of the options; obtaining the most effective benefits for our dollars spent; increased communications, including methods to engender pride of performance and motivation of all involved people. I do not believe we have a "crisis" unless we define this as an opportunity to move forward. I am pleased that the importance of having a physician in this position has been recognized. I hope, by virtue of my experience as a practicing physician for the past twenty-one years in Delaware, my performance and judgement will be in the best interests of all.

I hope to *demonstrate* that we can keep Delaware first; that we can have more and better services; and with decisions based on experience, sound thinking, and constructive information received from you and others, that we can have programs of excellence. I have confidence that the new cabinet form of government for the State of Delaware with ten departments and a centralized responsibility, authority, and decision-making process will be far more effective than the previous form with the 140 agencies, boards, and commissions. Please join me on this voyage and give me your support.

A. M. Baganz

In Brief

Speakers on "Ask the Doctor"

Speakers for March 1972 on the Tuesday radio program (11:05 a.m., WDEL) produced by the Medical Society of Delaware are: March 7, Charles M. Bancroft, M.D., *Asthma in the Elderly;* March 14, Dene T. Walters, M.D., *Physical Fitness;* March 21, Janet P. Kramer, M.D., *Drug Abuse;* March 28, Richard J. Kester, M.D., *Psychotherapy.*

Changes in Quarantine Measures

On January 12, 1972, the Center for Disease Control, Atlanta, Georgia, announced that it neither requires nor recommends immunization against any disease for Americans traveling to Europe and the U.S.S.R. This became possible when Spain, Bulgaria, and the U.S.S.R. dropped their requirements for smallpox certificates from travelers from the United States. They were the last countries in Europe to require smallpox vaccination for American travelers. For some time, European countries have not required cholera or yellow fever certificates from travelers from the United States.

Transplant Information Publication

The National Transplant Information Center is distributing at cost two publications: *A Guide for Donation of Organs and Tissues for Transplantation* (15c), and *The Challenge of Transplantation: A Public Affairs Pamphlet* (25c), to those interested in explaining human transplantation and organ donation to the public. Write: National Transplant Information Center, 150 Fifth Ave., New York, N.Y., 10011.

Paraplegia Research Award

The National Paraplegia Foundation has announced that the deadline for receiving nominations for their first $10,000 Basic Research Award has been extended to April 1, 1972. The Award will be made to the scientist(s) judged to have contributed the most meaningful research toward a *cure* for paraplegia. Nomination forms and additional information on the Award can be obtained from the National Paraplegia Foundation, 333 N. Michigan Ave., Chicago, Ill., 60601.

Renal Disease Report

Ten patients are being assisted financially by the state's Chronic Renal Disease Program, according to the report from the program's Advisory Committee. Most of the assistance is for the cost of hemodialysis. In addition, the program has received an application from one other patient. Patients with chronic kidney disease who need financial assistance should be informed of the Chronic Renal Disease Program. Information about medical and financial eligibility standards, as well as applications for assistance, may be obtained from the Office of Medical Social Services, Division of Physical Health, Jesse S. Cooper Memorial Building, Dover; telephone 678-4744.

Feeding the Hungry Poor

More than 14 million US citizens receive food stamps or food supplements each month. Programs to provide food to the poor exist in all but ten of the country's 31,329 counties and cities. At present, approximately 11 million receive food stamps; 4 million get food supplements directly. Approximately 7 of every 100 American citizens are thus regarded as poor enough to receive this aid.
(From FOOD AND NUTRITION *Newsletter* of the Food and Nutrition Service, US Dept of Agriculture, Jan. 14, 1972.)

Why Wait? (Screening for Diabetes)

From June 15, 1967 through October 31, 1971 there were 11,647 persons tested in Delaware. Those with above-normal glucose levels on primary testing with Dextrostix numbered 929 and 426 of those, roughly half, showed above-normal results when venous blood samples were processed. During Diabetes Week 1971, 924 persons were tested; 64 had abnormal primary tests and 19 of the 64 have been diagnosed by their private physicians as new or borderline diabetics. Ninety-seven new diabetics were diagnosed among the screenees referred during 1967-1970 but final figures are not yet available on all of 1971.

1972 Sheen Award

The Guarantee Bank and Trust Company of Atlantic City in cooperation with the AMA announces the opening of nominations for the 1972 Dr. Rodman E. Sheen and Thomas G. Sheen Award. It will be presented June 18, 1971, during the Annual Convention of the AMA in San Francisco. Consisting of a $10,000 cash prize and a commemorative plaque, the Sheen Award is presented annually to an American physician or physicians in recognition of outstanding contributions to medicine. You are invited to submit the names of physicians whom you believe to be eligible for this award. Written nominations are being accepted until March 15, 1972 and nomination forms may be obtained from the Sheen Award Committee, AMA, 535 North Dearborn Street, Chicago, Ill., 60610.

CLINICAL NOTICES AND MEETINGS

Cardiology

The American Heart Association Council on Clinical Cardiology and the University of Pennsylvania School of Medicine will present *3 Days of Cardiology,* March 13-15, 1972, at the Annenberg School of Communication, Arts & Sciences, 3620 Walnut Street, Philadelphia.

ACP

The American College of Physicians will present *Specifically Treatable Diseases,* March 20-24, 1972, at the Pennsylvania Hospital, Theatre No. 1, Preston Bldg., 8th and Spruce Streets, Philadelphia. The ACP will also hold its Annual Session at Atlantic City, April 17-21, 1972. For information regarding the postgraduate course or the Annual Session contact: Edward C. Rosenow, Jr., M.D., American College of Physicians, 4200 Pine Street, Philadelphia, Pa., 19104.

Quality of Life

The AMA-sponsored National Congress on the Quality of Life will be held March 22-25, 1972, at the Palmer House in Chicago. Goal of the meeting is to stimulate interdisciplinary efforts that will improve the quality of life of children and their mothers. Medicine's role is to serve as a catalyst in spurring the development of national, regional, state and local programs to solve problems beyond its scope. Cooperating medical groups are the American Academy of Family Physicians, American Academy of Pediatrics, American College of Obstetricians and Gynecologists and the National Medical Association.

Geriatrics Scientific Meeting

The American Geriatrics Society will hold its 29th Annual Meeting, April 5-6, 1972, at the Americana Hotel, New York. For registration and information write: Edward Henderson, M.D., Executive Director, American Geriatrics Society, 10 Columbus Circle, New York, N.Y., 10019.

Health Services in the 70's

The AMA 6th National Congress on the Socio-Economics of Health Care will be held April 6-8, 1972, at the Galt Ocean Mile Hotel, Ft. Lauderdale, Florida. You are invited to discuss significant health issues of today: *The Mix of Health Care Financing, Structure of Health Care Delivery,* and *Meeting the Challenge to Improved Services.*

Regional Conference A Southeast Regional Conference on *Relationships Between State Medical Associations and Voluntary Health Agencies* will be held at the Regency Hyatt House, Atlanta, Georgia, April 9, 1972. The Medical Society of Delaware is one of the sponsors.

Internal Medicine The 16th Annual Meeting of the American Society of Internal Medicine is scheduled for April 14-16, 1972, in Atlantic City. For information write: William R. Ramsey, Executive Director, American Society of Internal Medicine, 525 Hearst Building, Third at Market, San Francisco, Calif., 94103.

Industrial Health Conference The 1972 American Industrial Health Conference will be held April 17-20, 1972, in the Philadelphia Civic Center. Registration fee is $10. Advance program and registration forms are available from the American Industrial Health Conference, 150 North Wacker Drive, Chicago, Ill., 60606.

AAP Spring Session The American Academy of Pediatrics will hold its spring session, April 24-27, in San Diego, Calif. Make a note on your calendar.

Group Practice Meeting The Northeast Region of the American Association of Medical Clinics will hold its annual session, April 29, 1972, at the Howard Johnson's Motel, New Britain, Connecticut. Information and reservations may be obtained by contacting John C. White, M.D., Grove Hill Clinic, New Britain, Connecticut.

AC of Sports Medicine The American College of Sports Medicine will hold its 19th Annual Meeting, May 1-3, 1972, in Philadelphia. For information contact: Donald E. Herrmann, Exec. Secretary, American College of Sports Medicine, 1440 Monroe Street, Madison, Wisconsin, 53706.

Technologists Conference The 10th International Conference on Extra-Corporeal Technology will be held July 27-29, 1972, in New York City. Inquiries may be directed to: Edward C. Berger, Executive Director, American Society of Extra-Corporel Technology, Inc., 287 East 6th Street, St. Paul, Minn., 55101.

CLASSIFIED AD SECTION

Advertisements under the Classified Ad Section are charged at the rate of 30 words or less, set solid. One insertion $4.00. Call the Journal office, 658-7596 for further information or placement. All advertisements are payable in advance. The Editorial Board reserves the right to edit copy. Closing date for new copy is the first of the month for inclusion in the current issue.

Classified advertisements of a professional nature are free to members.

INTERNIST: Board eligible. ECFMG. American and Canadian postgraduate training. Cardiology. Interested in full-time hospital staff position.

SURGICAL PHYSICIAN'S ASSISTANT: B.A. in Biology from Clark University. Currently sophomore in 4-year P.A. Program, Alderson Broaddus College. Interested in contacting surgeon re future employment.

PHYSICIAN'S ASSISTANT — PEDIATRICS: 4-year-Air Force Corpsman. Emergency Room experience, Pediatric Clinic. Presently Physician's Assistant student at Cleveland Clinic, Hematology Dept. Available June 1972.

INTERNIST: Board eligible. Subspecialty in pulmonary disease. Available July 1972.

PHYSICIAN: Graduate Medical College of Va., 1932. Experience includes industrial and private practice. Also served U. S. Public Health Service. Prefers hospital practice.

INTERNIST: New York state license from FLEX. Subspecialty in gastroenterology. Board eligible.

GENERAL PRACTICE: Graduate of Hahnemann Medical College 1969. Will complete military service October 1973. Prefers solo practice.

WANTED: Physician-partner for our 1971 34′ Drift-R-Cruz Houseboat. Please call 764-8367 for details. R. Kester.

OFFICE SPACE: Available immediately. Furnished or unfurnished. 1208 Delaware Avenue, Wilmington. 654-7007 or 428-2596.

THE FORUM

Environment And Health

NO SMOKING

Whereas the health agencies have always looked to physicians for leadership in health problem solving; whereas it is recognized that smoking is a real hazard to health; whereas many of our citizens are presently trapped in the smoking habit to the detriment of their health; we the Delaware Interagency Council on Smoking and Health appeal to our physician friends for their help, and challenge them to give this help at the expense of their personal pleasure and comfort (albeit to the enhancement of their health).

We therefore appeal to all physicians to forego smoking in all public places, including their offices, the hospitals, and wheresoever they will at any time be in the public eye; we challenge them to be splendid examples to lead the way so that never will a patient be able to say, "my doctor said, 'Don't do as I do, do as I say.' "

Authorship: *DELAWARE INTERAGENCY COUNCIL ON SMOKING AND HEALTH.*

This page is sponsored by the Delaware Tuberculosis and Health Society.

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THE WOUNDS AND WEAPONS OF THE REVOLUTIONARY WAR FROM 1775 TO 1783

• The heavy surgical and medical mortality of the War of Independence was due to the poor understanding of the principles of the surgical craft in the 18th century. Most of the wounds caused by the smooth bore musket and cannon were of the crushing type due to the soft lead projectiles and the low velocity of the missiles. The bayonet was the important weapon in close-in fighting, and usually wounds of this weapon in the chest or abdomen were fatal. A description of the injuries of several Colonial and British soldiers is included.

Allen C. Wooden, M.D.

It may seem strange to you to know that we have a great deal more knowledge about the weapons of the Revolutionary War than we do of the type of wounds they caused. It shall be my purpose in this essay, to try to give a graphic description of what we know of the types of wounds as they are described in several diaries and biographical writings that are available.

In reviewing the military manuals of the period, it appears that the infantrymen of all nationalities engaged in the Revolutionary War were equipped with a smooth bore musket and a bayonet. This type of musket was about eight feet long, weighed about nine pounds and had no front or rear sight. The firing was by a flint locking mechanism, which was standard on firearms from the 17th century to the middle of the 19th century.[1] The hammer held a piece of flint in its jaws. The flint struck a steel fission or battery, which pivoted open in such a way that a shower of sparks fell into an open pan of powder. The powder in turn ignited and flashed through a touch hole in the site of the barrel, thus firing the main charge inside the barrel.[2]

The ball used as the projectile was smaller than the barrel; this made for easy loading and also compensated for powder fouling,

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which tended to build up in the bore when the round was fired. The musket was loaded from the muzzle at a rate of about five shots a minute depending on the soldier's skill.

To specialized companies, another weapon was issued called a rifle. The term was used because it had "rifling" (a spiral groove) in the bore of the barrel as compared to the musket, which was smooth bored. Rifle balls were usually smaller in diameter than the musket balls but were tightly patched; that is, they were wrapped in an oiled piece of paper or cloth. This snug fit insured greater accuracy, increased the velocity, and lessened the fouling of the barrel by powder. The drawbacks of the rifle were several. It took more time to load, had too long a barrel to which to attach a bayonet, and was more burdensome to carry. Hence, it was never a standard infantry weapon at that time, being used only by sharpshooters or in specialized companies. On the frontier, the Pennsylvania or Kentucky rifle was the weapon of choice. It could be fired accurately for at least two hundred yards and in the hands of an expert could kill at four hundred yards. The rifle companies were also issued tomahawks a long knives as side arms.[3] (Figure 1)

Early Revolutionary Soldier— average age 14 to 18 years.

The officers and non-commissioned office usually carried a straight sword and at lea one pistol. The pistol was usually smoo bore and was seldom fired except at clo range. It was a personal weapon, more for d fense than for offense. Officers usually had provide their own weapons from their ov funds.[4]

At the outbreak of the war, the coloni artillery was an accumulation of guns, mo tars, and howitzers of every sort and son thirty different calibers. During the battl of 1775 and 1776 almost all of it was lost destroyed. It was replaced by guns cast in tl colonies or imported from France.

The mobile guns of Washington's arm fired shot which ranged from three to pounds and was used in 5½- and 8-in howitzers, usually made of bronze. The ca nons used round shot to batter down obstacl and grape and K shot for anti-personnel us The mortars and howitzers fired bombs an carcasses. Grape shot, canister, or bomb sho were used against massed personnel.[5] Tl maximum firing rate of field pieces was abo one hundred rounds a day for light guns an forty rounds for heavy pieces. Depending the weather, after a number of rounds tl gun became so hot that it could not handled. In this state it was unsafe to loa and had to be cooled for about an hour befo it could be fired again.[6]

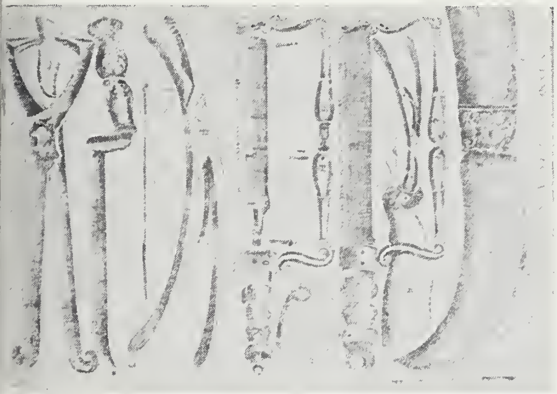
Wounds — Types

The first type of wounds described will injuries incident to the personnel using tl firearms. The most common injuries we burns. Burns were a real problem to the me at arms. The soldier had to worry about tl flashback from the pan where he placed tl priming black powder. If too much powd was placed in the barrel, it could cause maj flashback of the gun or the barrel could e plode. Flashbacks could also happen becau of fouling of the piece and accumulation of r sidual powder in the barrel which had n been cleaned. In firing an artillery piece, or could receive a major flashback from a touc le or a premature explosion due to burning idding in the barrel.[7]

The treatment of powder burns was a chalnge for the surgeons of the 16th, 17th and th centuries. Military surgeons tried a lit of everything on these burns including ur, oil, onions, etc. Some unknown military rgeon discovered that lint or rags steeped strong tea and wrapped around the burned eas with a compression bandage, gave the st results.[8]

The next type of wound was the gunshot ound. A soldier could be injured in any part his body by projectiles either from the nooth bore musket, the more accurate rifle, from different types of artillery pieces. The pes of wounds extended from the perforatg wounds of the skull through the perforatg or penetrating wounds of the face, neck, est, abdomen and extremities. Apparently ost gunshot wounds were treated similarly.

The first thing the military surgeon would was to enlarge the wound, and then with e use of a probe determine the depth of the ound in order to locate the projectile. Once e projectile was located, a spoon of some nd or long forceps were used to remove the reign body, whether it be a musket ball, or y other material that might be present. nce the foreign body was removed, a comession bandage was usually used to close e wound. However, there were many ethods used by different surgeons depending upon when and by whom they were trained. In some cases they used sutures to close the wound. Other surgeons left a piece of lint or sponge in the wound to promote the production of what they called "laudable paus" or necessary inflammation around the wound.[9] (Figure 2)



mputation Instruments. From "Works on Chirurerie," by Jacques Guillemeau, chirurgeon ordinry to the King of France, 1649.

Operative Equipment and Technique

Amputation was known as a capital operation and became the commonest operative procedure. Even the laymen saw in it the only way possible to avoid the fatal results of a bad injury or inflammation in an extremity. The general medical view held at the time was that the body was most rapidly healed from a wound or suppuration by removing the injured limb. Military surgeons believed that by the removal of the injured part, the pain and danger of a long convalescence, or failure of healing could be eliminated. None of the surgical texts of the period advised trying to preserve the limb. The typical statement was, "If the bone is smashed, the limb has to be removed," and "If the joint is injured, the appendage has to be amputated." Articular wounds were feared above all other types of skeletal injury.[10]

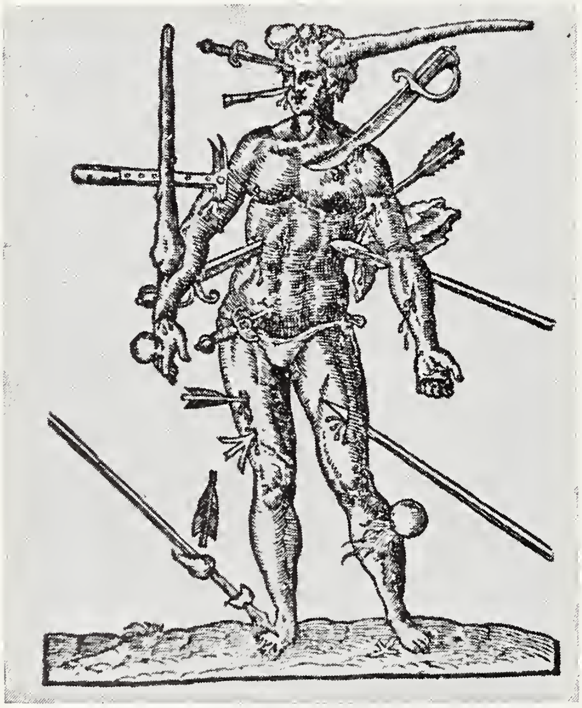
Much of the teaching of Ambrose Pare (the use of ligatures for control of hemorrhage from lacerated arteries and the dictum that incisions should be made through healthy tissue) was completely disregarded at the time of the American Revolution.

Most of the young barber surgeons, who constituted the majority of the military surgeons, had no knowledge of how to stop the flow of arterial blood although a crude type of tourniquet had been used by a French surgeon at the Battle of Flanders in 1674.

During the time of the Revolution, the gangrenous stump of an extremity was usually operated upon, because there was very little bleeding, and the blood vessels were easily cauterized with much less pain than when amputating through normal tissue without anesthetic. The cautery used varied from red hot irons to boiling oil or pitch, or chemical caustics. Often, the surgeon's mate would dress the amputated stump with hot oil or pitch, even if the arteries had been ligated, in hope of preventing the suppuration which so frequently occurred.[11]

The surgeries were makeshift, either in a tent, barn or similar structure. Even the most elementary precepts of cleanliness were overlooked; stench, filth, and decay were usually a part of the hospital setting. Operations of all types were performed on old wooden tables, often contaminated from previous surgical procedures with blood, pus and ichor which ran off and collected on the table and the floor. The tent or room was normally without lights or heat; the floor was covered with sawdust, sand or packed earth.[12]

The surgical instruments, saws, bistouries, scissors, probes, forceps etc., were wooden-handled utensils and were usually washed in clean water between operations. Also present was a washbasin for dipping sponges during operations, and for washing the surgeon's hands after surgery.



Kinds of injury the men at arms can sustain. A wood engraving on the title page of the first English edition of the "Method of Curing Wounds made by Gunshot — London, 1617. Original in the Bodleian Library, Oxford.

The suture material was linen thread or whip-thongs of very thin, tanned pieces of leather. Most of the military surgeons had a long coat or jacket to wear over their regular clothes during the operation. Hence, before the surgery was started, the whip-thongs would be placed in the lapels of the coat to have them ready for sutures or ligatures as required.

The following are the types of wounds encountered by outstanding personalities of the Revolutionary War as taken from diaries or their own biographies. (Figure 3)

Blood and secretions were wiped from the wound from time to time with a damp sponge. After a quick rinse in a basin of water, these sponges were used again and again until they fell to pieces. The wounds were most often left unstitched to allow early suppuration; to encourage this, the surgeon put a sponge or a piece of lint at the base of the laceration.

In the case of a thigh amputation, if the patient did not die, the wound took three months to heal, with a very poor stump for a prosthesis. Following an amputation, the patient in the first twenty-four hours was running a high fever, and during the following days the wound started to drain pus profusely. This was considered a normal healing process. However, in most cases, the patient became toxic with chills and fever.

The original thick yellow pus, the "pus bonum et laudabile," liquified and began to have a strong odor. The surface of the wound turned brown with separation of the edges and oozing of stinking pus. In such cases the patient was moribund.

Dr. Joseph Warren

One of the first men of prominence to be killed was Dr. Joseph Warren. He was killed on Bunker Hill (really Breed's Hill). It was said by the men around him that he was firmly planted on a mound of earth swinging a gun barrel, the remains of a musket, in an attempt to hold off the onslaught of the British regulars coming up the hill with their bayonets. He was one of the first to be bayoneted many times and bled to death. This was at the Battle of Bunker Hill.

Brigadier General Hugh Mercer

Other prominent physicians were also killed with the bayonet. One of them was Hugh Mercer, who was killed at the battle of Princeton.[13]

Brigadier General Hugh Mercer, a graduate of Edinburgh, and a distinguished physician from Virginia had his horse shot from under him on January 3, 1777. His brigade was overwhelmed and took flight. The general fought on, almost alone, at Princeton until he was helpless because of six bayonet wounds.[12]

Benjamin Rush describes finding General Mercer near the area where the Battle of Princeton was fought. "We found a number of wounded officers and soldiers belonging to both armies. Among the former was General Mercer, an American, and Captain McPherson, a British officer. They were under the care of a British surgeon's mate, who committed them both to me. General Mercer had been wounded by a bayonet in his belly in several places, but he received a stroke with a butt of a musket on the side of his head which put an end to his life a week after the battle. Captain McPherson was wounded in the lungs. He recovered in consequence of the loss of 140 ounces of blood."

Colonel John Haslett

Another physician, Colonel John Haslett of Delaware freely chose to stand beside his General until he was killed by a musket ball through the head.

Captain Patrick Ferguson

Captain Patrick Ferguson, a Scotsman, invented the first breech-loading rifle to be used successfully as a unit ordnance weapon. This was a very accurate rifle. Captain Ferguson demonstrated it before the King of England. It was decided to make one hundred of these weapons and to have Captain Ferguson form a company of one hundred men armed with this weapon. This was done, and they were shipped to the New World. They arrived in March 1777 and were attached to the Hessian General Knyphausen's column. They were headed for Philadelphia. This hundred man company commanded by Ferguson first used the Ferguson breech-loading rifle at the Battle of Brandywine. That was the first and the last time it was used as a company weapon, because during the battle, the right elbow of Captain Ferguson was shattered by a musket ball. Naturally the surgeons recommended amputation of the arm, but Ferguson refused. The riflemen of his company were disbanded and returned to their companies of light infantry, never to serve again as a unit.

Ferguson's arm did heal, but his right elbow remained stiff. He had to teach himself to write, fence, and shoot left-handed. He managed to do these things and many other things as well. He was a daring and resourceful commander who served mostly with Tory troops in Southern campaigns. In 1780 he was made Inspector General of Tory militia in Georgia and the Carolinas. During the Battle of Kings Mountain he was killed, it is thought by an American Pennsylvania rifle ball.[14]

Brigadier General Lafayette

Another very important personage who was wounded at the Battle of Brandywine was the young Brigadier General Lafayette. Lafayette had tried to stop the flight of the militia troops he commanded, and the glittering gold braid of his brand new general's uniform drew upon him the fire of the enemy sharpshooters, who used Ferguson's rifles. A bullet penetrated the upper part of his thigh. In the heat of the action, he continued to command and only when the blood began to fill his riding boot did he allow his comrades to persuade him to dismount. Ambulance men carried him on a stretcher to the village nearby, undoubtedly Chadds Ford. Later, he was taken to Bethlehem, Pennsylvania. The shot had passed through the flesh without touching the bone. The thigh and leg became enormous, red, painful, and swollen, necessitating several weeks of bed rest. The inaction was a sore trial for Lafayette because of his impatience to perform. Without waiting for the complete healing of his wound, he arrived unexpectedly at Valley Forge leaning on a stick and still limping. This was an inhospitable spot in which the American troops after suffering a fresh defeat at Germantown were forced to spend the winter amid great privations.[15]

Colonel Benedict Arnold

In 1775, twenty-two-year-old Isaac Center volunteered his service as a surgeon to the American Army at Cambridge. He was assigned to Colonel Benedict Arnold's command to accompany the army on its journey to Kennebec and St. Lawrence to attack Quebec. He wrote a diary of that trip. When Center's boat foundered in the Kennebec rapids, he lost his medicine chest and surgical instruments and was left only a few necessities including a lance. In the assault on Quebec which began on January 1st, 1776, Arnold was seriously wounded. Center's diary gives on insight of the rough and ready surgery of the 18th century camp warfare as well as his skill and Arnold's courage. "Daylight had scarce made its appearance as Colonel Arnold was brought in supported by two soldiers, wounded in the leg by a musket ball. The ball had probably come in contact with cannon, rock, stones or the like, ere it entered the leg which had cleft off nigh a third. The other two-thirds entered the outer side of the leg, about mid-way and in an oblique course passed between the tibia and fibula, lodged in the gastrocnemius muscle at the rise of the tendon achilles, where upon examination I easily discovered and extracted it. We entreated General Arnold for his own safety to be carried back into the country where they could not readily find him out. But to no purpose, he would neither be removed nor suffered a man from the hospital to retreat. He ordered his pistols loaded and a sword placed on his bed. He was determined to kill as many as possible if they came into his room."[16]

Dr. Samuel Adams, an army surgeon, from 1745 to 1819 left a diary from the period 1758. He described assisting Dr. Charles McKnight, a New York surgeon, in sawing off part of the fibula of Captain C. Arnold's leg and later helped Dr. McKnight to amputate the extremity. The ball, he said, was lodged in the center of the tibia, which was fractured. This followed the Battle of Monmouth.[17]

The diary of Major Charles Gillman, M.D. states for an amputation operation: "A good dose of tincture opium followed by ample rum together with a very sharp knife and saw, and the ears were covered with lambs wool. The head was bound over the ears and the result was little discomfort to the man." He also suggested pressure bandages to the stump at once. Sometimes the stump was seared with a hot iron. In gunshot wounds, he recommended removal of the ball if possible, but advised against prolonged probing. Again he used tight compression bandaging and the same for bayonet wounds. Gillman did not suture, but bound the wounds together. For snakebites, and there were many in wooded areas in which the army fought, he advised a cruciate incision with resultant bleeding. Cupping followed the incision. Bleeding was a standard practice for fevers. In fact, the controversy still goes on regarding Washington's chance for survival had he not been bled so much and so frequently.

Sgt. Charles Gamberton

Sgt. Charles Gamberton of Woodbridge, a Jersey Blue, was shot in the face at Monmouth. The ball went through his cheek, struck his teeth, and stopped. He spit out the ball, not the tooth. The very tight compression bandage by Gillman healed it quickly, according to Gamberton.[18]

General Nicholas Herkimer

Nicholas Herkimer's patrol was ambushed while carrying supplies to Fort Schuyler. During the ambush General Herkimer's horse was shot from under him. The general was shot in the leg. He crawled up to a tree, propped himself against it and began shouting orders for a rally. His rear guard deployed into the woods just before the Royal Greens marched in. His defenders were relieved by the Continentals from the Fort. But Herkimer's militia sustained more than four hundred casualties. The next day, Herkimer's leg required amputation. The attending surgeon botched the job, and General Herkimer bled to death on the operating table.[19]

Deborah Sampson (Alias Robert Shirtliff)

A fighting female of the Continental line was Deborah Sampson, alias Robert Shirtliff. "On a scouting expedition near Tappen Bay, Deborah received a superficial head wound and a much more severe wound in the right thigh, just below the groin. Taken to a French army hospital nearby, she permitted her head to be dressed but kept secret the thigh wound. In a moment of privacy she cleansed the wound with rum and with a pen knife and a needle extracted the bullet. Knowing that she could not return immediately to active duty with her company, she got permission to nurse a critically ill soldier who could not be moved. This wound healed, but she had trouble most of her life. She married in April 1784, but continued to have problems with her right thigh. In 1792, she received approximately $100.00 as an invalid pensioner."[20]

James Thatcher wrote a military journal which was published in 1812. This is an entry dated from his diary 24th of October, 1777. "It is my lot to have twenty wounded men committed to my care, by Dr. Potts, our Surgeon General; one of whom, a young man, received a musket ball through his cheeks, cutting its way through the teeth on each side, and the substance of the tongue; his sufferings have been great, but he now begins to articulate tolerably well. Another had the whole side of his face torn off by a cannon ball, laying his mouth and throat open to view. A brave soldier received a musket ball in his forehead between his eyebrows; observing that it did not penetrate the bone, it was imagined that the force of the ball being partley spent, it rebounded and fell out, but on close examination by the probe, the ball was detected, spread entirely flat on the bone under the skin, which I extracted with the forceps."[21]

Peter Francesca

Peter Francesca sustained a bayonet wound at the Battle of Gilfor's Court House in North Carolina. He was a cavalry sergeant and carried a broad sword. He had killed quite a number of British Guardsmen. He was charging a "square", that is soldiers kneeling in the design of a square. He was riding headlong upon the solidfying squares of the guardsmen and was impaled upon an upthrust bayonet. The steel entered his thigh just above the knee, sliced deep almost to the bone and ripped upward, laying open the flesh along the entire upper thigh almost to the hip socket. Staying on the horse by instinct, doubled up with pain, Francesca wheeled out of the action, clung to his mount in desperation and then losing consciousness tumbled from the saddle and collapsed on the ground. It was at the same battle that General Cornwallis turned his own artillery on the center of the battlefield. His artillery fired grape shot which scythed through the ranks of friend and foe, stilling the milling fury of the battle. Under the steady hammering of the guns, the Americans withdrew slowly and reluctantly to their own lines. This is one of the bloodiest battles of the Revolutionary War.[22]

Dr. Barnabas Binney wrote a paper entitled, "A remarkable case of a gunshot wound in which a very serious internal wound healed without any surgical intervention leading them to conclude that surgeons may be too officious as well as too tardy." This was well considered in London to be reprinted by the London Medical Journal after it had first appeared in the memoirs of the American Academy.[23]

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POVERTY AND IMPROVISATION IN THE HISTORY OF MEDICINE

• Nurses, feldschers, midwives all had their origins in the medical needs of the poor. All posed a threat to "medical standards" just as nurse practitioners and physicians' assistants in the eyes of some viewers do today. The author takes a look at these standards in the light of medical history. He finds the doctor "concept" insufficient to guarantee those standards without new paramedical types.

Mason G. Robertson, M.D.

The United States is a country of extreme wealth and extreme poverty. The wealth is visible, but, as Michael Harrington in his book, *The Other American*, pointed out, the poverty is often hidden from us.[1] For the medical profession, geared to a quality of care for an affluent society, the coexistence of poverty poses a serious problem, especially in light of our recent pronouncements that medical care is a universal right of all citizens.

For one thing, Ralph Nader, the consumer advocate, has accused us of having a double standard: one for the rich and another for the poor. Dr. William Nolen, author of the popular book, *The Making of a Surgeon*, seemingly confirms Nader in his comment:[2]

"We did the best we could, but there's no doubt that the charity patient who came to the Bellevue OPD (outpatient department) received care of lower quality than that which a private patient would have received from his personal physician."

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The problem of care for the poor is far from new. We are, however, seeing a re-awakening of a social conscience in our society. The rise of expensive, technically complex and sophisticated care for those who can afford it has highlighted the inadequacy of care for the poor in sharper relief. Finally, the introduction of Medicare and Medicaid has enormously taxed present resources and shown the need for an astronomical expansion of these resources to meet both present and future needs.

It is what many call a "crisis" in medicine, an historical crossroads from which changes so frequently take place.

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According to an ancient adage, necessity is the mother of invention. War and pestilence are well known conditions from which, historically, there has been the necessity for medical "inventions." It was the Crimean War of the 1860's which gave rise to the work of Florence Nightingale. Almost alone she created the modern nursing profession, with not a little objection from military doctors of the British Army.

Poverty is another fillip to invention. In fact, it was to serve the needs of the poor that Pastor Theodor Fliedner began his famous nursing school at Keiserling on the Rhine some twenty years before the Crimean War. In this school, Florence Nightingale obtained her first informal training.

Improvisation in the History of Medical Care

Improvisation in the history of medical care is not only not new, it continues to the present time to be a fairly constant factor.

Here are some rather glaring examples:

A United Mine Workers' official told my medical school class in 1950, in a lecture at Charlottesville, Virginia, that as late as 1938 there were mining towns in West Virginia for which the only doctor was a bright young high school graduate with a "knack" for biology.

The dean of Savannah internists, while serving in the mid-'50's on the Georgia State Board of Health, fought sucessfully to allow the services of an osteopath in a private rural hospital owned by a prominent physician. The osteopath was the only "doctor" in a 50-mile radius from his office. However, this same senior internist, a friend of governors and senators over a span of 30 years, both in Georgia and South Carolina, concurring in the point about poverty and improvisation, cited the example of a friend and colleague who, working in a remote area in Africa, actually trained natives, with no formal education, in the techniques of thyroid surgery! Apparently, goiters were common and the need for surgery pressing.

I can't vouch for the above story, but I do recall during medical school days, a newspaper clipping on the bulletin board telling of a six-month medical degree in Communist China. Of course, it was a wry jest to us freshmen and sophomores. But it seems true that large cadres, with short-term medical training, were used in a massive effort against some of the age-old health problems in China with well-documented success, as the noted neurosurgeon, Wilder Penfield, and other travellers have reported. Penfield also commented on the efforts of the Chinese to utilize the services of the traditional "acupuncturists" by encouraging scientifically trained physicians to work side by side with them even in hospitals.

In underdeveloped nations, the question of a double standard doesn't seem to arise. Improvisation is the rule, not the exception. The classic historical example is that of the "feldscher" system, which, like nursing has become a permanent fixture in many of the advanced countries of Europe. Fielding H. Garrison, in his *History of Medicine* (first published in 1913) tells us of the origins of the "feldscher" system of physicians' assistants many years ago.[3] Discussing Czarist Russia, he says:

"The difficulties encountered in providing adequate medical assistance for vast tracts of territory were well illustrated in pre-war Russia, where all accredited physicians had to be university medical graduates. The deficiency was supplied by the institution of "civil feldscherism," which came into being with the emancipation of the serfs (February 19, 1861), and was a subject of heated dispute. The military feldschers were originally those pupils of Peter the Great's medical school at Moscow, who had suffered "capitis diminutio" for insubordination or inefficiency and were abased to the level of playing regimental barber or nurse to the barrack hospital. The civil feldscher was defined as the "leib-medick of the moujik" (peasant). In other words, a half-fledged, half-educated medical assistant, deputized by the government to take care of vast numbers of peasants, of whom the *mirs* or village communities of pre-war Russia were largely made up. The village doctor received the peasant at stated intervals. The feldscher looked after him the rest of the time while "flying corps" of oculists and other specialists were occasionally sent across the Cau-

causus into Siberia or wherever needed. The feldscher, like the public health nurse, was thus a sort of *pis aller* (last resort), and the reason for his existence was a tacit agreement that it is better to have a half-doctor than no doctor at all." Following the Bolshevik revolution, the Soviet government has continued the feldscher system down to the present, but has considerably raised their level of training.

The problem of improvisation in a more advanced nation, however, poses a threat to the maintenance of standards for high quality medical care. In our community, last year faced with the sudden increase of nursing homes because of federal funding, our local health officer attempted to eliminate substandard nursing institutions and enforce minimum standards. In the ghetto areas, the elderly and infirm had traditionally been cared for by enterprising but untrained persons, in unofficial "nursing homes," often with church connections. These had become a social institution. Citing the fact that unlicensed persons were giving "insulin" injections, the health officer proceeded to close them down before adequate facilities were available to care for the patients elsewhere. A bi-racial Human Relations Council brought the matter to the public and amid great fanfare awarded the self-appointed angel of mercy running one of the "homes" with a plaque and a eulogy for years of service and devotion. Our health officer judiciously rescinded his order and the unofficial homes are still doing business.

We accept the need in an economy of scarcity (a euphemism for the poor man's plight) for making-do with what we've got. The problem for setting standards of quality then seems less acute. Little wonder that Dr. Arthur Sackler can seriously propose that in backward areas witch-doctors be utilized to relieve the world shortage of psychiatrists. The question of quality and standards arises even in backward situations, of course. I recall as an undergraduate student seeing a Russian movie about the illiterate rebel leader Chipayyev, who, noting he had no doctors, appointed two veterinarians to do the job. His educated political advisor, Fronze, overruled him, insisting that only a medical school graduate could serve as a doctor. For myself, I think I would have gone along with Chipayyev, recalling that a Swiss hoggelder, Jacob Nufer, seeing his wife faring poorly under the care of 16th century physicians, performed the first Caesarian section on a live patient long before Ephraim McDowell gained fame for removing an ovarian cyst in the wilds of Kentucky. Nufer's successful feat won him little fame but evoked restrictive laws against any like endeavors by other veterinarians.

The problem of standards and quality becomes really acute when we no longer have the excuse of poverty. In our own country, before we became an advanced nation, prominent doctors arose on the frontier with little or no formal education. Helen Clapesattle's *The Brothers Mayo* describes a more or less typical career, that of the progenitor of Will and Charley Mayo.[4] Though he rose from humble origins with only an apprentice medical training, the elder Mayo nonetheless attained a strong sense of professionalism as though he had been a university graduate. It was he who refused to testify in a court of law pejoratively against an arch rival, explaining: "I didn't do it for him, damn him, I did it for the profession." He had acquired the proper professional air, a medical parvenu.

In the United States the general level of medical care in the middle of the 19th century, during the rise of the nursing profession, was such that Helen Jensen in her book on the history of nursing could say:[5]

"In many neighborhoods, certain women gained a reputation as being especially good in nursing and were called in cases of sickness and confinement. In the case of the latter, they were called monthly nurses. Most of them were respectable women; many had much experience, and *considering the limitation of medical experience of the period, they were fully a match for family doctors.*" As mentioned above, the nursing profession began as a response to the needs of the poor.

The Flexner Report

Sudden affluence in America unquestionably served to stimulate reforms, first in medical education and, secondarily, in the quality of medical care. Abram Flexner, an American-born school teacher, was the son of a Jewish immigrant merchant with a strong tradition for scholarship (his forebears were school masters in Bohemia). He was the brother of Simon Flexner, of Rockefeller Foundation fame. Andrew Carnegie, at the turn of the century, selected Abram Flexner to make a study of the plight of medical schools in the US and Canada.[6]

Flexner travelled to each of the 155 medical schools in the US and Canada and made a personal inspection. So gross were the deficiencies that one day usually sufficed to document them. His report, the now famous "Bulletin Number Four" of the Carnegie Foundation Commission, was issued in 1910. Within a year, fully fifty per cent of these so-called medical schools were closed down. Not just the diploma mills were affected. University medical schools also came in for sharp criticism and underwent considerable reform, shifting over to the German university model after the Johns Hopkins example in Baltimore. The result was the spurring of medical science and research in the medical schools, resulting in a scientific training for the medical students such as had not previously existed.

The Midwife

Time-honored improvisations soon were challenged. For example, the midwife, who had existed from ancient times and until the rise of the scientific doctor seemed a secure institution, came under attack. The women "libs" of our day can make a great case for the fact that the midwives, like the nurses, might well have developed into modern doctors were it not for the "male supremacy" down through the years. There is the tale, for example, of Agnodice, a woman of ancient Greece, who dressed as a man and went to study under Herophilus, the great Alexandrian physician. With the knowledge gained, she later served the women of Athens and gained quite a following until she was found out and hauled before the Areopagus by jealous male doctors. On hearing the testimony of female witnesses on her behalf, the judges acquitted her and repealed a foolish law that prevented women from practicing any sort of healing activity.

More impressive, however, is the story of Trotula, who by some accounts was a lecturer and professor in the first European medical school at Salerno, Italy. She was the author of an 11th century book on obstetrics entitled *De passionibus de muelierum ante, in et post partem.* Her story is interestingly told in Muriel Joy Hughes' book, *Women Healers in Medieval Life and Literature.*[7] The text, known as *Trotula Major*, was reprinted for centuries. Sometime around the 15th century, male prejudice against the thought of women doctors sufficed to have Trotula's authorship denied. Her name was dropped, and she became, as it were, a non-person, at least medically. She was apparently one of a group of women practicing medicine, the "women of Salerno" as they were referred to by medical historians. Yet, even Garrison lists her only as a "midwife."

Down through the ages, in fact down to our own day, the quarrel over female practitioners has taken the form of doctors denouncing midwives (and the other way around, we should add) as low quality practitioners. In support of the midwives, we might cite some interesting points. For example, Semmelweiss' discovery of the cause of childbed fever in Vienna was due to the noticeable association of the fatal disorder with delivery by unkempt medical students, compared to its relative rarity in the same institution when delivery was by student midwives. As late as 1912, the great J. Whitridge Williams of Johns Hopkins could still criticize doctors for losing more patients from improper practices than did the midwives from infection. Nonetheless, midwifery persisted as an improvisation growing out of poverty, and its elimination was a reflection of rising standards of medical care, with the replacement of the midwife by the obstetrician.

It is interesting that midwifery was for a time given a new lease on life by our immigrants from Eastern Europe at the turn of the century, who brought the custom of childbirth with a midwife in attendance. Midwifery for this reason was commonly practiced in New York City down to recent times just as it was in rural Georgia. Poverty underlay the custom in both instances.[8]

The effect of Flexner's work was the development on a large scale of the scientific study of medicine. Medical students and, in turn, society benefited by the increase in scientifically trained physicians. Coupled with state laws and licensing systems, any contest which may have exited between the doctors and their various rivals was dispelled. The growth in medical science and knowledge quite naturally resulted in the multiplication of medical specialists. This was reminiscent of Herodotus' description in the 5th century B.C. of specialization among the ancient Egyptians, who had different doctors for every disease or body part. The difference, of course, lay in the scientific grounding of the modern specialist.

A significant point needs to be made here. In the past, poverty was responsible for the rise of various unorthodox cadres of healers, and, with the rise of affluence, formal standards tended to separate them from the legitimate "doctors." Thus a "dual" or "double" standard was perceived, one for the rich and one for the poor.

Specialization, however, gave rise to a *multi-staged* standard which even today we little recognize.

The patient cared for by a rural practitioner, even though licensed and "legitimate," does not receive the same standard or quality of care as he might from a cardiologist if, say, he is suffering from a heart ailment. An economy of scarcity prevents us from declaring that only the cardiologist can treat heart ailments, although such rules exist in hospital centers where no such scarcity exists. When one doctor calls for another's help, we call it "consultation." It hasn't been long since the general "Board" surgeon drove the GP from the big city hospital operating rooms, and now he is hardpressed trying to find some corner of the belly to call his own. Like the GP, he is numerically strongest where there is the aforementioned economy of scarcity.

My point is simply this: in the wake of discussions about new cadres of health workers (such a physicians' assistants, pediatric nurse practitioners, etc.) growing out of both the focus on poverty and the efforts to expand health services (following introduction of Medicare and Medicaid), there has been a reaction based on fear of lowering our standards of medical care.

If we have a double standard, as Nader says we do, it consists in calling sub-professionals (non-doctors) sub-standard, without recognizing the gradation of qualities of care within our own profession.

In my analysis, our only defense of this double standard is our assertion that the general practitioner with an M.D. represents a "minimum standard" below which medical care becomes sub-standard.

Dr. Herbert Berger, associate professor of medicine at New York Medical College (in a recent article in *Medical Opinion and Review*) likens the physician's assistant to a professional piano player after only five easy lessons as compared to a doctor devoting his entire life to the study of medicine after a minimum of 12 years' training out of high school.[9] One fallacy in this analogy consists in comparing the two entities as though they were working alone.

One of the outgrowths of the scientific and technological explosion in medicine has been the development of complex team-work in the care of more and more categories of medicine. The best way to get comprehensive well-patient preventive care is through a well-organized group or clinic. The best care for specific ill-patient problems is through the specialized clinic — tumor clinics, orthopedic and rehabilitation clinics. These represent higher advances in the process of *doctor* specialization. For example, the most highly trained cardiologist cannot care by himself for a patient with acute coronary thrombosis. He needs, in the words of Dr. Eliot Corday, the "razor-sharp" coronary care nurse to help him. If artificial comparisons are to be made between lone individuals, I think most of us would agree that a coronary care nurse for a patient with acute coronary thrombosis would be superior to a dermatologist physician. Yet the doctor working alone tends to degenerate to the level of a technician, especially if he does not have the help of technicians.

But our laws, licensing systems, and boards still tend to view the doctor in isolation, taken alone as if he were a monolithic, omniscient and omnipotent creature. We have plenty of laws saying that a non-doctor can do this or that only under the supervision of a doctor, but we have no laws restricting a doctor from trying to substitute for a highly trained technologist. It's a bold physician, for instance, who overrides an experienced blood bank technologist.

Dr. Berger makes the reasonable point that it is absurd on the surface of it to attempt substitution of a sub-professional physicians' assistant for a general practitioner presumed to be practicing alone in a semi-rural area. Such a physician is himself a surrogate for a multi-specialty clinic and requires the broadest possible knowledge and expertise to perform such a task. The truth is, the general practitioner, at his best cannot possibly substitute for and maintain the same high quality of such a clinic. Where he practices alone, the general practitioner is just as much an improvisation growing out of an economy of scarcity as the public health nurse.

But the traditional view that only the doctor can be responsible for the care of patients no longer conforms to present realities. The truth is that there are a lot of patients certain doctors should not care for, and there are other patients whose problems don't even require a doctor. There are many "functions," especially clerical and sometimes even medical, that could just as well be furnished by persons with something less than a medical school education.

Medical historians make the point that throughout history the physician for the most part has been little more than an artisan. We, like allied medical professions, had very humble beginnings. Perhaps in over-reacting to the improvisations imposed by poverty with its attendant lower standards, we have assumed the airs of the nouveau riche and parvenu by failing to recognize the negative aspects of our aristocratic self-esteem and sense of elitism. If we are to achieve a high standard of medical care for our entire population, as we maintain is our goal, then we most certainly are going to need whole new cadres of medical workers. We certainly will have to organize ourselves into a complex of clinics and teams with a multitude of functions. This can never be achieved within the frame-work of our present concept of the doctor. A medical school education as a definition of a doctor is today meaningless. All workers in the health field, whether they become researchers, managers (Dr. Eugene Stead of Duke has recently proposed physician-managers as a specialty), technologists, or surgical specialists, should have equal access to the medical school curriculum. Unless we completely redefine the meaning of the medical degree, there is presently little significance to the title of "doctor" except as a hindrance to our analyzing and solving the problems of his innumerable functions.

The changing concept of the doctor is only one facet of this broad subject. As society becomes more complex and science and technology advance, we will not only discover new diseases, but perhaps our concepts of what constitutes disease, health, and health care will also change.

Recently, the Carnegie Commission on Higher Education has issued another landmark report: Higher Education and the Nation's Health.*[10]

It deals primarily with changes in medical education. Although it skirts the question of the future of health care, there is little doubt that it envisions vast changes. On the question of new cadres, it specifically charges the health science centers, which are to develop across the land, with responsibility for research and experimentation toward developing new types of medical personnel.

John Knowles, in a recent editorial in *Science*, calls for rapid implementation of the report.[11] Unfortunately, in spite of a sense of urgency and an awareness of change and the need for change, discussion and debate on some of of our most basic concepts have hardly begun. Part of this is perhaps due to our failure to recognize just what concepts are most apt to undergo change.

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*See Clifford Foster, Higher Education and the Nation's Health: Special Report. Delaware Medical Journal, March 1971, p. 72.

Summary

In summary, poverty and an economy of relative scarcity have led to improvisations. Some of these improvisations have been transitory, but some have given rise to permanent fixtures in the health care system, as for example, the profession of nursing. The problem of standards of medical care is increasingly difficult as a society passes from poverty to affluence. Efforts to render high quality care to all of society force a careful evaluation of our health care system. The rise of the scientific doctor seemed for a time to simplify the question of standards of medical care until the stage of specialization arose. Then it became clear that there were staircase levels of standards of care depending on the need for and the accessibility of specialists. The development of specialty clinics further complicated the picture. In the light of this, we can speak of a dual standard between rich and poor in the most general way only. Declaring certain "non-doctors" as rendering sub-standard care becomes meaningless when we consider that some of these non-doctors can probably take care of patients with some minor affections better than a well-trained doctor who is used to working in an unrelated field.

The need for new cadres of health workers is becoming urgent. Arguments about its effect on the quality of over-all medical care, while a matter for our concern, can be specious if blindly presented without a careful reevaluation of the concept of the doctor.

The changes which the present crisis in medical care are apt to effect will require cool heads and calm thinking, but old prejudices and preconceptions will have to be put aside.

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MAN IN SEARCH OF MEANING

PART II — Hallucinogenic Agents

• How are the feelings about Death related to the use of hallucinogenic agents by some people? In Part II the author explores this question.

Eli Marcovitz, M.D.

It is possible to consider the use of drugs as the means to find a sense of meaning in life and to master the fear of death.

For thousands of years, all over the world, man has used products from plants, trees and grains as well as alterations in states of consciousness.

I am limiting myself to a consideration of the hallucinogenic agents. It might be asked why I have chosen the designation "hallucinogenic" rather than "psychedelic." I think the latter term, meaning mind-expanding, its implications of positive value, is definitely propagandistic. In 1924 there was published

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in German the classic text called *Phantastica; Narcotic and Stimulating Drugs, Their Use and Abuse,* by Louis Lewin, the first psychopharmacologist. Among all the drugs affecting psychic functions he designated one group as the Phantastica or Hallucinating Substances, with no pejorative implication. It is on the basis of his example that I use the term.

Among these there is the peyote cactus of our Southwest and Mexico and its active principle mescaline. There is the fly-agaric, the mushroom amanita muscaria, which is believed to have been the source of the drug used by the Scandinavian "Berserkers" who got it from Siberian tribes. These Berserkers, Norsemen of the 9th Century, the dreaded marauders of the coasts of Britain and Europe, were known at times to "go berserk."

I quote from an old text (Fiske, 1872), "They seemed to become possessed by a strange homicidal madness during which they would array themselves in the skins of wolves or bears, sally forth by night to crack the backbones, smash the skulls and sometimes to drink with fiendish glee the blood of unwary travelers or loiterers. These acts of madness were usually followed by periods of utter exhaustion and nervous depression" (p. 79). It is thought that those violent states were induced by using the substance of the flyagaric. This is also the mushroom which Robert Graves (1970) showed was sacred to Dionysus, and which Wasson (1970) declared to be Soma, the source of the legendary divine drink of the ancient Vedic poems of India. Another fabled eater of the magic mushroom was Alice who used it as the key to Wonderland.

The Malays also were known to work themselves into a frenzy and to run amuck under the influence of arrock or hashish (Fiske).

Hashish and marijuana, products of the cannabis shrub, are probably the most widely used hallucinogens today. Also used are the much more toxic LSD, mescaline and psylocibin, the active principle of a Mexican mushroom.

Generally people begin the use of marijuana because they are influenced by friends or peers. There may be a subtle challenge to dare to share this new experience, or active proselytizing and seduction to its use. Its beginners share in a double puberty rite — the youngsters to prove their courage and their equality with adults, the middle-aged to prove they are still young. Involved is a defiance of laws that are considered to be not only unjust but an interference with individual and personal liberties. The claim is that one has a right to be different, to be mysterious, to be delinquent. One even has the moral right to madness, illness, and self-destruction.

Probably the most common reason for using any drug is "to feel good," as they say, physically and psychically. Most people, after a few preliminary trials in which they feel nothing new, find that getting "stoned" on marijuana or hashish is a pleasurable experience which does not have the built-in unpleasant or immediately dangerous effects of getting drunk. Unpleasant tension, usually the result of inhibited or frustrated aggression, is relaxed. There are loving feelings towards others. This is true particularly within the group.

The communal function of drugs has been a means of binding individuals together. This is part of the meaning that people seek in life, the feeling of belonging. We search continually for the fulfillment of an ambivalent wish, to be in the group, and yet to be able to withdraw from it at will. In the early stages of intoxication the use of marijuana in groups tends to enhance this feeling of union. The "rapping," the incessant talk, the irrepressible hilarity the feeling of profundity which can seldom be remembered or described, these provide an intense pleasurable excitement. Deeper intoxication tends to isolate the individual even within the group experience and may lead to sleep.

In addition to this group pleasure there is the group contribution to narcissism, the feeling of being part of an elite. Those outside the group tend to be disdained.

There are some aspects of the motivation for the use of marijuana that are more evident in the use of harder drugs like LSD. Besides the pleasurable aspects of the drug experience, there is a search for new and dangerous experience. This is not a new phenomenon for man. To rush to danger, to hunt always for the exquisite new sensation, to seek pleasure through pain and terror is an old thrust of man's desire. Even the risking of psychosis is not new. There is an obvious recklessness in the effort to blow one's mind and this too is a manifestation of the counterphobic risking of death. In most of the writings about LSD there is evident a feeling of pride in having been "there" and back.

Under hallucinogens, sexuality becomes the mystery of opposites. With inhibition freed, sensation is sharpened but desire is dulled. Though Dr. Timothy Leary claims that an LSD trip provides the ultimate in sexual ecstacy, other users corroborate neither these claims nor his accounts of fantastic sexual potency.

Drugs themselves have been worshipped as Gods, magical personifications of beings with multiple magic powers among which are creativity, the ability and power to master people and situations, the power to win love, adoration, worship and above all the power to give love. In our unconscious phantasies is the delusion that by incorporating the magic substance one can acquire the magic powers.

The effect of the drug is to make one able to endure pain and displeasure of any kind, rejection, hate, failure, material and social deprivation, all the sad and desperate situations that are part of everyone's life.

Many writers insist that the disorganizing experience of the drug is a necessary preliminary to a reorganization at a higher level. This is said to be manifested in a general feeling of calm, peacefulness, love for one's fellows which lasts for varying lengths of time after the LSD session. However, many of the youngsters who do it on their own in unsupervised situations seem to be motivated as much by hate as by love. Their actions frequently combine defiant rejections of authority with reckless self-destructive of self-punishing tendencies.

Although it is reported that the use of the hallucinogens generally leads towards passivity and the diminution of any form of aggressive behavior, there are reports of destructive behavior sometimes under the influence of paranoid reactions which may be exaggerated by the hallucinations and delusional experiences in the intoxicated state (Hicks et al, 1969).

Many LSD users have remarked on the almost hypnotic suggestibility which characterizes the LSD trip and have warned that this factor might be used by unscrupulous leaders, even naming some of the most distinguished prophets of the movement.

The influence that Charles Manson had on his followers was deliberately enhanced by controlling their access to sexual partners as well as to LSD and other hallucinogens (O'Neill, 1969). The saga of Manson and his "family" reminds me of the myth of Aloadine the Mohamatan, the Old Man of the Mountain, who transported young men under the influence of hashish to a place where every desire was fulfilled. After such a taste of the after-life they had no fear of death and became the "hasheeshins" or assassins who carried out the murderous design of Aloadine against the Crusaders of the Middle Ages.

Ruth Benedict (1934) in her account of the Pueblo Indians, contrasts their Appolonian reliance on tradition, moderation, priestly ritual and law with the Dionysian attributes of the surrounding Plains Indians, particularly with the efforts of the latter to attain visionary, mystical experiences, through dances, or fasting, or extended periods of solitude, or extremes of self-torture or through the use of peyote. These visions were believed to confer supernatural power. This power could be used by the warrior as well as the medicine man.

The examples of the Berserkers, the Malayans, and the Assassins, are somewhat mythical perhaps, but that of the Plains Indians and the Manson "family" shows that, whether it is induced by drugs, visionary experience in itself does not necessarily lead to peace or love and higher spiritual qualities

(*Continued on page 76*)

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(*Continued from page 74*)

or behavior. It can also lead to the sanctioning of violence and destruction.

As I have already said, the initial and occasional use of marijuana is not generally in the service of a search for transcendental meaning. Usually it has more limited objectives — a relaxation of tension, warmer feelings for others, more intense and exquisite sensory experiences, and especially the relief of boredom.

There are some, however, for whom it becomes the most important thing in life. Usually the person in this category makes it the nucleus of every day's experience. Not only does marijuana not necessarily interfere with the daily task of making a living but it may even be the means by which one may endure the monotonous, non-challenging every day job.

A young man, who has been taking marijuana for some years, graduated from an Ivy League college and got married when the girl he was living with became pregnant. Then he went to work, at two different jobs, one requiring no skill and the other a quasi-professional job. He does not use marijuana when he works at the latter but it is only the regular dependence on marijuana which enables him to get through the monotonous hours of the mindless job. Implicit in this is that his choice of such a mindless job rests on his psychological dependence on marijuana. On the rare occasions when he cannot get the drug, he becomes restless, irritable and depressed. This is a relatively mild form of the more extreme reactions of anxiety and depression even leading to attempted suicide which I described twenty-five years ago in a group of confirmed marijuana addicts who were deprived of their drug. They needed the drug to relieve the anxiety and depression which otherwise characterized their existence.

What Are Hallucinogens?

It is commonly proclaimed that the hallucinogens such as marijuana and LSD are not addicting. This is true in the sense that there is no demand for increasing dose and there is no physical withdrawal syndrome as there is with narcotics like opium or heroin. However those users who are labelled "potheads" or "acid-heads," those who are more or less constantly under the influence of the drug, are addicts in the sense that they do experience psychological distress without the drug. Many, perhaps most of them, are prone to states of anxiety or depression and have found the drug of their choice in an attempt to self-therapy. Addiction to any substance is evidence that the addiction is the meaning. An addiction means "nothing else can replace this."

Can the addict to hallucinogens give up his addiction? Yes, if he really feels threatened with the loss of something more important, or if he finds some activity or person to supply the fulfillment of pleasure and the relief of distress which he obtains from the drug, or if he finds some form of narcissistic fulfillment which can supplant the addiction. Changing life conditions may provide new and different meanings which can lead to the renunciation of such a psychological addiction.

There are some marijuana users, a smaller percentage usually, who attempt a deeper experience with it, which usually necessitates reaching a more intoxicated state for longer periods of time. In these cases there is more likelihood that the experience will resemble an LSD trip. Sometimes they attain the so-called "mystical" experience.

This description from Lord Dunsany's (1917) *The Hashish Man* describes the illusion:

"It takes one literally out of oneself. It is like wings. You swoop over distant countries and into other worlds. Once I found out the secret of the universe. I have forgotten what it was, but I know that the Creator does not take creation seriously for I remember that He sat in space with all His work in front of Him and laughed." The writer concludes "They got a doctor and he said it was hashish poisoning" (p. 67).

In descriptions of experiences with hallucinogens there are repeated accounts of remarkable change in perception of the external world and its objects, including the cessation of time and the extension of space; alterations in form and color, illusions and hallucinations; changes in the perception of one's own self and body and its inner processes, as if one becomes conscious of the functioning of every cell. One goes beyond the boundaries of the senses. Just as the fascination of what is difficult appeals, so does the fascination of the myterious and mystical. There is said to be new understanding, strange and new creativity; union with all other forms of existence in the universe; union with God; regression to earlier states. Leary (1966) himself has reported journeys back not only into the childhood periods of his life, but back even to the womb and beyond, into lives of ancestors, back to inorganic states preceding the beginning of life. In such experiences one encompasses not only all life but all forms of existence. One frees oneself from the terror of death and may even feel that he reaches knowledge of the secret of life and its meaning. Each of these experiences attempts to affirm either the processes of life or the conquering of death. In union with the universe or with God there is assurance of immortality. The new sensory experiences depend on a breakdown of the stimulus barrier which ordinarily protects us against the intrusion of overwhelming external and internal stimuli, stresses on the nervous system which would interfere with adaptation and survival. It is obvious why the person on the LSD trip needs a guide. He is like a helpless infant who needs a mother to survive. Yet the "good" experience of this otherworldly state seems to confer a sense of accomplishment and of increased power and security. In the feelings of new insights, new understanding and new creativity there are the certainties of omniscience and omnipotence, a tremendous increase in narcissism and self-esteem. Finally in the feelings of universal love and goodness there is a dissolution of aggression and hate and a relief of guilt. It is no wonder that a "good trip" can relieve anxiety and depression and for a while one can feel peace, self-satisfaction and self-fulfillment. When one has overcome Death and feels God-like one can even afford to be nicer to people.

Although the use of hallucinogens is associated at the moment with the determination to overthrow tradition, it is itself part of an ancient tradition whose purpose was individuation by way of the ecstatic loss of identity in direct union or communication with God and the truth of the Spirit. The mystic philosophers of the East, the Dionysians of ancient Greece, the prophets of the Old Testament, some of the Christian Saints, the Shamans of the American Indians, the visionary founders of new sects and religions, all have something in common with the searchers for the transcendental mystical experience of the hallucinogenic trip.

It must be stressed that in spite of the hopes and claims for increase in creative powers resulting from the use of hallucinogens there is little objective evidence for such hopes. Many users have described the feeling of new insight, new understanding, new creative powers while under the influence of the drug, and some instances have been reported of creative accomplishments, but usually there is either no wish or no power to put these into any form that is meaningful later to oneself or to others.

In The Beginning

One hundred years ago Oliver Wendell Holmes, physician and author, the father of the late Supreme Court Justice, had nitrous oxide for a tooth extraction. The experience was so powerful that when he emerged he thought he had been given a miraculous revelation of tremendously important social dimensions. Since he could not recapture the vision he persuaded his dentist to reinduce him with the gas so he could know it again. While transfixed by the power of the vision, before he lost consciousness, he wrote his dream. When he recovered consciousness, he saw what he had written:

"Lord, what a stench!"

Baudelaire, the great French poet, himself a hashish addict, wrote, "Hashish reveals to a man nothing but himself. The thoughts of which he hopes to make so much use are not really as beautiful as they appear in the tinsel magic of their momentary disguise. They are more of earth than of heaven and owe most of their beauty to the neurotic excitement and desire with which the mind flings itself on them. Also this hope is a vicious circle. Even if we admit for a moment that hashhish can confer genius, or at least increase it, it must not be forgotten that it is the nature of hashish to weaken the will, and so to give with one hand what it takes with the other, that is to bestow imagination without the power to make use of it" (Hayter, 1968).

Here is a description of the effects of a drug taken for the purpose of change, and self-discovery:

"There was something strange in my sensation, something indescribably new and from its very novelty, incredibly sweet. I felt younger, lighter, happier in body; within I was conscious of a heady recklessness, a current of disordered sensual images running like a mill-race in my fancy, a solution of the bonds of obligation, an unknown but not an innocent freedom of the soul."

This is part of Dr. Jekyll's description of his first experience of becoming Mr. Hyde. His purpose was to separate his conscience from his violent impulses and to give himself the opportunity for the free indulgence of all these impulses.

However, the drug went beyond his intent. It destroyed not only his conscience but his ego as well, and after continued use of the drug, the effect occurred without the drug. He became Mr. Hyde when he least expected or wanted to. The horror he experienced when he had lost control over his transformation is like that experienced by some LSD users when they find themselves "tripping" without the drug.

There is another unconscious meaning in the drug beside the personification of the supernatural God-like powers. The drug itself is a representation of Death. Taking the drug is simultaneously a challenging of death, a counter-phobic risking of death and an identification with death through the incorporation of its representative. There is no greater triumph than to have travelled through the Valley of the Shadow and to have returned.

A young man had suffered some very bad trips which almost required hospitalization. Yet he persuaded some friends to assist him in a ritual in which he dropped "acid" and then was "stabbed" with rubber daggers, laid out with candles and then went through a "rebirth." It seems to me that some young people are risking death in search of an experience which is the equivalent of the "rites of passage" of primitive societies, an ordeal which is the representation of the death of the child and his rebirth as an adult. The man I just mentioned apparently found his mission: he became a missionary in the service of LSD.

The Social Use

The social use of marijuana serves apparently as a means of easing the tensions, the anxieties, the embarrassment of social contact. However for the adolescent with problems about self-esteem, identity and relationship, marijuana instead of serving as a means of temporary relaxation may become a way of life. Repeated disorganizing periods of intoxication with marijuana, hashish or with any drug, including alcohol, may interfere with the developmental processes of adolescense, including the attainment of a sense of dignity based on real relationships and accomplishments rather than on spurious feelings of omnipotence owed to the drug. Let "the young knight the broken squadron rally," but not in psychedelic dream. Any drug experience, beyond the initial stages when it may lessen social anxiety, is necessarily isolating. This is also the aim of the mystical experience. Isolation and meditation can be healthy, mind-expanding and maturing experiences. For some people they are a necessary part of living, and, together with effective, ethical interaction with others, can contribute to the development of a healthy narcissism, a deserved self-liking and self-respect. When the mystical, isolating experience needs to be sought repeatedly as an end in itself, then this necessity may indicate a search for a not-so-healthy narcissism, either the phallic narcissism of the compulsive masturbator who fantasies God-like omnipotence, or the even earlier "primary" narcissism of the infant's union with mother in the total gratification and peacefulness of immortality.

No matter what characterizes our individual ways of living with meaning, there is a common denominator of which we are generally unaware. The meaning that we seek, in life and in death, is the illusion of omniscience, omnipotence and immortality, the ultimate aim of the narcissistic self-image. The use of a drug appears to permit a direct gratification of this unconscious longing.

Dr. Anthony Philip (in Hicks et al, 1969, p 161) tells this story, which he states he heard directly from Dr. Richard Alpert. "A young man, one of a group collectively under the influence of LSD standing on a balcony of a high building said, 'I think I'll jump' . . . He was encouraged by his friends saying 'Cool,, man, cool!' and he jumped. As he lay dying and bleeding on the street below, he waved and blew kisses up to his friends saying 'I've taken LSD and I'm dying, but I'm happy.' Dr. Alpert added 'It doesn't matter *when* you die, it's *how* you die that counts." Because the young man died happy, arguments about the danger of suicide or the sanctity of life were rejected out of hand by Dr. Alpert as irrelevant."

If this account is true it confirms the role of the drug experience in the search for the meaning of life and the defiance of death. By deliberately casting away life one performs the ultimate gesture. One transcends all fear and appears to be a hero, perhaps the supreme God-hero, who dies not out of allegiance to some human cause but in pure confrontation with the divine and demonic forces of nature — Life and Death. It would appear that intoxication with LSD is conducive to the sense of conviction of the unconscious phantasy of omnipotence, and may even lead to its acting-out without concern for reality. It may seem to be a harmless game to succumb to the sophistry that the distorted perception of the LSD trip may be the true reality which is beyond the reach of our ordinary consciousness, but when behavior rests on this illusion or delusion it is death.

Phantasies, fear and wishes about these substances are now being tested gradually by accumulation of experiences.

We know, for example, that LSD can have very serious effects such as psychotic-like episodes which may appear spontaneously even months after the original use, the so called "flashback." We know also that there have been irrational acts of violence and destruction of others or the user himself. Many of my colleagues report they have seen evidences of irreversible brain damage from the use of these drugs by young people.

On the other hand there are a few reports by psychiatrists of various positive therapeutic effects as well as records of isolated helpful therapeutic experience from people who have used it perhaps once or on a few occasions and may never intend to use it again.

Although most non-proselytizing writers agree that in most instances the feelings of well-being that sometimes result from these drugs do not last, there seems to be evidence that some people have had lasting changes in inner feelings, in relationships and in behavior. These changes are described as similar either to those from various forms of psychotherapy or to those from religious "conversion."

Whether one believes these substances to be panacea or poison, their effects deserve investigation. Altered states of consciousness, drug induced or otherwise, are a legitimate area of study, and not only from the point of view of whether their effects are desirable or undesirable (Tart, 1969).

To recapitulate then, the users of hallucinogens may be divided into (1) those who use them occasionally for pleasure, as part of their culture milieu, (2) those who use them repeatedly and addictively as a way of expressing unconscious needs and phantasies in either passive or aggressive, maladaptive forms, (3) those who use these agents for the purpose of introspection, self-discovery and the seeking of new truths and meanings.

I suspect the possibility of overlap among these three groups. The use of the substance may begin as part of the social milieu but if the pharmacogenic effects fulfill unconscious phantasy needs or meanings it can lead to repeated addictive use. On the other hand even those who seek self-actualizing, creative effects may simultaneously be seeking the gratification of, or defenses against, unconscious phantasies of childhood.

Besides the personal psychological reasons there are social reasons for such a widespread phenomenon as the use of hallucinogens. When I saw marijuana addicts in the army over twenty-five years ago (Marcovitz and Meyers, 1944), all but one of the thirty-six I worked with were blacks from the very lowest socio-economic class. Their lives were full of deprivation, indignity, brutality and hopelessness. If any people in our society had reason to seek in drugs a feeling of pleasure, of power, of self-esteem, of insulation against the real world, these people had. But this is not new. The deprived and hungry of most societies have found some kind of drug to relieve their suffering and degradation. It has been one of the escapes from the cruelty of injustice and the bitterness of pent-up hatred. Except that in turn the drug has contributed to the continuation of their misery by making them unable to take active steps toward change.

What is new is the use of drugs by the middle and upper class college youth, and its spread up to their parents and down to their younger siblings.

One might ask "where else are they to go to surpass their parents, who are so successful and so affluent, who have conquered space and the atom and have learned so much about the human mind and the life processes?" It is as if any further progress must be along extensions of old trails, and this is not good enough for today's youth who have been reared to value the new in everything. Now for many of them there must be destruction of the old, a repudiation of all tradition, or an exploring of the new frontiers of the interior of the mind. This looks like the only area left unexplored, and is consonant with the exploration and exposure of one's innermost feelings in various groups, with intimates or with strangers.

Their use of drugs is a phenomenon which has occurred within a remarkably short period, perhaps five years. Many contributing reasons have been given by social scientists; the technological revolution and its constantly increasing acceleration of change and alienation; increased affluence with its accompanying emphasis on material possessions; parental indulgence and the increasingly earlier experiencing of pleasures that have brought surfeit and boredom; the passive exposure to endless hours of television; the sexual revolution capped by the pill. Other important factors have been the assassination of President Kennedy and of his brother who represented hope for the future for a large segment of American youth; the breakdown in the participation by white, middle-class youth in the civil rights struggle, climaxed by the assassination of Dr. Martin Luther King, Jr., which also ended for this country the theory and tactic of non-violence; the letdown in fervor after the disappointment of the McCarthy movement, and finally the war in Vietnam.

Secondary Factors

This has produced a proliferation of secondary factors; disillusion and loss of trust, increasing disgust, shame, rage and guilt about our role in Vietnam; increasing danger of nuclear war; the background of anxiety produced in students by the recognition that after college they must face the war; and a massive repudiation of the older generation for producing such a catastrophic situation in the world.

When danger is overwhelming and the causes and possible solutions are impossibly complicated and contradictory then thinking becomes confused and most difficult. In a frantic search for immediate relief we tend toward more instinctual forms of action, either sexual or aggressive, or toward retreat into sensation and phantasy. Drugs offer just this. I am not sure that it matters much whether it is through alcohol or marijuana. Housman (1933) might just as well have written of "pot" when he wrote:

Ale, man, ale's the stuff to drink
For fellows whom it hurts to think:

Look into the pewter pot
To see the world as the world's not.
And faith, 'tis pleasure till 'tis past:
The mischief is that 'twill not last (p. 192).

In the process of avoiding the rational working out of problems there is the danger of not learning how to be rational, with a turning away from the hard work required for the development of knowledge, skills and craftsmanship. When Freud said "Where id was, there shall ego be," he meant that the goal of psychoanalysis was the attainment of more rational civilized control over the primitive drives. Since then another goal has been extending of the domain of the Ego and its mature ideals over the primative superstitions, archaic aspects of the superego. In their denunciation of the imprisoning restrictions of the superego, some writers extol the spontanaeous expression of the Id even to the extent of advocating overthrow of the self-critical judgment of the superego as well as of the controls and discipline of the Ego. So in the attempt to destroy traditions and standards there is the danger of sacrificing the development of the incredible complexity of human cognition. We have to wonder whether we are approaching the state where we shall have the freedom to do everything and the competence to do nothing.

In my opinion an important factor in the "now" youth culture is a repudiation of the rational, of thinking, of the scientific approach of form in the arts, in favor of the irrational, of feeling, of magic and the occult, of formless, chaotic sensori-motor behavior such as "happenings" and aleatoric music. The tremendous increase in the use of the hallucinogens is only one facet of this change.

I wish to quote this passage from an autobiographic work by a world-famous psychiatrist. "The cosmic meaning of consciousness became overwhelmingly clear to me. Man, I, in an invisible act of creation put the stamp of perfection on the world by giving it objective existence. This act we usually ascribe to the Creator alone. My old Pueblo friend came to my mind. He thought that the raison d'etre of his pueblo had been to help their father, the sun, to cross the sky each day. I had envied him for the fullness of meaning in that belief, and had been looking about without hope for a myth of our own. Now I knew what it was, that man is indispensable for the completion of creation; that in fact he himself is the second creator of the world, who alone has given to the world its objective existence."

This is obviously not Sigmund Freud.

This is Carl Jung (1961) and it is very euphoric stuff. It shows how much man needs myths and illusions to give meaning to life. Apparently Jung subscribes to mankind's universal myth, that we are Gods. It is absurd to declare that our consciousness, a very recent development in the series of life-processes, has given objective existence to the world. Yet from the point of view of "Man the Irrational" as well as of the idealistic philosophers, it is true. From the moment man became aware of his power to create and destroy at will, the equation of God and Man was inevitable. Whether God created Man in His own image or Man created God in his is immaterial. In that realm of thinking that we label the Irrational it is only when the self and its God becomes One that man finds that sense of meaning that turns existence into living. For humans to have a sense of purpose to something beyond ourselves, something we identify with and by so doing enlarge our own boundaries and significance, something which continues to live and have meaning after our personal existence is ended.

When our human groups were small and homogeneous and all individuals shared the same myths and rituals, such dedication was relatively simple. With the increase in the complexity of groups, the effects of Eros, we also have differentiation and fragmentation, the effects of the Death-Instinct. Increasingly each person must create his own meaning, and even create his own medium with which to reach it. But this increases the risk. Old, traditional rituals usually have some built-in limits of safety, otherwise the group would not survive. Today, however, for many young people the symbolism of traditional rituals inevitably creates the impression of make-believe. To find an authentic personal experience one must take risks. Emily Dickinson (1945) wrote:

> I lived on dread; to those who know
> The stimulus there is
> In danger, other impetus
> Is numb and vital-less (p. 187).

So we must anticipate that some young people will risk their minds and their sanity as others have risked their lives and their bodies. We can require them to pass tests before they drive cars, or to wear helmets when they ride motorcycles, but generally there are relatively few and minor limits we can set for their safety.

For a large segment of American youth the myths and rituals that provided the cement for our American civilization have become ridiculous. We are the most powerful nation on earth and many now believe that the greatest threats to our power, our dignity and our survival come not from outside forces but from the contradictions and destructive forces within our own structures and institutions. The devil, to be destroyed, is no longer on the outside but on the inside of our society. The feeling is that one must divorce oneself from evil by destroying it, even at the risk of self-destruction, or one must run away from this world to an inner world of goodness, beauty and ecstacy, the world of drugs. These are the new crusades to which many of our youth are dedicating themselves.

To make either of these solutions unnecesary requires a new set of myths and rituals to which our youth can adhere with feelings of loyalty and pride. Many in the vanguard of youth will no longer accept them from their elders unless they rest on some significant changes in our social, political and economic structures. I would guess that in their repudiation of tradition and of history they will have to rely on trial and error to find new solutions. This is a process which inevitably mobilizes counter-forces that value and depend on the traditional. I think we are in the midst of attempts to create not only new forms of personal and social interaction but new religions and new Gods, and that our society faces a long period of internal struggle with no certainty of its outcome. Not all of us can pray for God's help. But we can hope that the rational and irrational forces within man are still on the side of Eros, and we can still make our historic toast, not "To Immortality," but "To Life."

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* * *

WHO'S CALLING, PLEASE?

A surgeon (not from Delaware) was recently forced to entrust his baby sitting to a kindly neighbor whose gentleness and likeability far exceeds her conversational English.

When he returned, he was informed there had been one telephone caller only, most insistant, who called three times, leaving his name only which the sitter proudly presented: Mr. Vend E. Spektrum, an unusual name and not one familiar to the surgeon.

After persistent review of the situation and consultation with the answering service, the mystery caller was identified.

"When do you expect him?" turned out to be the full English translation.

President's Page

TRIBUTE TO THE ALFRED I. DU PONT INSTITUTE

The Alfred I. duPont Institute of the Nemours Foundation deserves our recognition, praise, and gratitude for the outstanding and worthwhile contributions in furthering health. The recently announced plans for extension and expansion of services are received with excited anticipation of further achievements and contributions.

Mr. Alfred I. du Pont died in Florida on April 29, 1935 and directed in his will that a corporation for charitable purposes be formed to be known as *The Nemours Foundation*. The Foundation to serve "as a charitable institution for care and treatment of crippled children, but not of incurables, or the care of old men or women, and particularly old couples; first consideration, in each instance, being given to beneficiaries who are residents of Delaware, the one or more of which said charitable purposes." The choice of emphasis of function was left to the discretion of the trustees. The maximum capital fund to be taken from the estate was limited to one million dollars with further support accomplished from the net income of the estate.

His wife, Jessie Ball du Pont, made the decision to exercise her option in the will to procede with her husband's desires during her lifetime — a fortunate decision. In addition to the many accomplishments since 1940, under Mrs. du Pont's direction, large sums of money were directed to the Institute for erection and equipping of the buildings. Mrs. du Pont was personally very active in this endeavor and was fortunate in obtaining Dr. Alfred Shands, who was then Professor of Orthopedic Surgery at Duke University School of Medicine, to lead the way.

Following the death of Mrs. du Pont in 1970, additional resources became available. Recently, upon an appeal to the Florida court, a clarification was obtained to interpret the term "crippled child" used in the will. Crippling has been considered to be equivalent to any type of handicapping that would prevent the child from functioning in society. This concept is somewhat broader and more subtle than the image of 1935 relative to "crippling" as being only physical handicapping.

The Institute's plans for expansion include patient care, education, and research. The Trustees have approved the concept of a new hospital with specifics of design and function yet to be decided. Increased emphasis on clinics and ambulatory care is expected. A sophisticated level of care will be offered to complex problems and will include identifying and serving unmet health needs. The Institute will avoid duplication and competition with existing acute and chronic care facilities and extending and complementing services of other institutions in this region. Referral by physicians or agencies will continue to be the source of patients irrespective of economic need. The full-time medical staff will be increased. During the past five years services have doubled at the Institute, and the average patient stay has decreased from 120 to 18 days.

Research will have enlarged facilities. Applied research, metabolic screening, tissue culture and techniques with emphasis on prevention and early detection will decrease the incidence of conditions leading to crippling or handicapping.

Education for specialized training and postgraduate continuing education programs will be increased. The Mansion House, "Nemours," is directed by the will not to be uesd for housing or hospital purposes. One of the purposes it is to be used for is the advancement of education. New audio-visual techniques, surgical instructional devices, and other innovative educational methods are planned.

We look to the future of the Alfred I. du Pont Institute of the Nemours Foundation with great expectations.

H. M. Baganz

Delaware Academy of Family Physicians

ATTENTION, DELAWARE ACADEMY MEMBERS

Core Content Review

The Core Content Review Executive Committee has announced that an all new Review, comprising 400 original questions is being developed for 1972, and will be offered starting in September, 1972. Registration information on the 1972 Core Content Review will be distributed in April or May of next year.

In the meantime, members may purchase copies of the 1971, 1970, and 1969 Core Content Reviews. If you have not participated in all of these Reviews, you might want to avail yourself of the opportunity to purchase these back issues. As you know, the Core Content Review includes questions, answers, and detailed explanations on all aspects of the Core Content of Family Medicine. *It is a particularly good vehicle to help prepare for the Certification Examination in Family Practice.*

There will be one change in procedure when working on these past Reviews. Rather than receiving the material monthly, it will be sent to you all in one package, allowing you to work on it at your own pace.

The registration fee for the 1969 Core Content Review is $25; for the 1970 Core Content Review, $30; and for the 1971 Core Content Review, $35.

Please send your check made out to *Core Content Review,* to cover the registration fee(s). Enclose your name, address, and zip Code. Mail to *Core Content Review,* Connecticut and Ohio Academies of Family Physicians, 179 Allyn Street, Suite 304, Hartford, Connecticut, 06103.

State Officers' Conference

The 1972 State Officers' Conference in Kansas City, April 22-23, planned around a circus theme, will be a three-ring production with the spotlight on audience participation. Sizeable blocks of time have been set aside for small-group discussions, idea exchanges, and question-answer periods.

For example, on Saturday afternoon there will be three group sessions, according to the size of home chapters, from 3:30 until 5:00. There will be a moderator in charge of each group to keep things moving, but the idea is open participation by everyone.

Sunday morning's schedule includes a period for group discussion: state chapter presidents and presidents-elect, executive secretaries, and other SOC participants. The program later that morning features another participation segment, a quiz panel made up of Academy officers to answer questions put to them by the audience.

Developments in medical education will be covered from a number of viewpoints. Dr. Hiram B. Curry will report on experiences with a university-based family practice department, and Dr. Thomas L. Stern will speak about the family practice department developed in a community hospital. Academy President J. Jerome Wildgen will offer a glimpse of new horizons in continuing education.

Dr. Robert Haakenson, a personable and effective instructor in public speaking, will give the SOC audience valuable tips on technique. Dr. Haakenson is associate director of public relations for Smith Kline & French Laboratories. He conducted a speaker workshop staged last summer by the Academy Public Relations Committee.

All SOC sessions will be held at the Muehlebach Hotel in Kansas City, Missouri. One official representative from each state chapter will be reimbursed for transportation costs in excess of $50.00 for his attendance.

Friday, April 21, preceding SOC, the Academy will sponsor the 16th Annual Symposium on Infectious Diseases jointly with the University of Kansas School of Medicine under a grant from Lederle Laboratories.

Editorials

ALL THOSE NOSES PRESSED AGAINST THE WINDOW

See page 66

Wouldn't most doctors who are out in the "front lines" today say "bravo" to Dr. Mason Robertson's article! Working, on the average, half again as many hours each week as the vast majority of their neighbors, unable to take care of all the people who are knocking on their doors, they know that everywhere throughout the country there are vast numbers who are not getting the medical care they need — even right in the doctors' own neighborhoods, not to mention the ghettos and the rural communities. Of course, all American citizens (all human beings) are entitled to medical care as a right, not as a privilege. And what if "medical care" means not only "crisis care," but comprehensive, continuing care, preventive medicine, routine examinations, identification of risks, hospital care, coronary care, surgery, kidney transplants, the whole works? The mind boggles! All those noses pressed against the window, wanting (and needing and deserving) in. There's no way we can add enough doctors to do the job, ever, if it's going to be done in the traditional way.

The answer has to lie in the use of teams, computers, and paramedical personnel. But doctors themselves will have to change their attitudes about having other persons, lesser trained, presume to intrude in what's always been doctors' province. Watch the average MD bridle when a nurse, or worse yet, an orderly or an ambulance attendant tries to tell him something about a patient which presumes some sophistication in what has always been exclusively doctor territory. You can see the hackles rise: "Oh, where did *you* learn to practice medicine?"

In the years to come where she or he learned it is going to have to be from us. We'll have to get used to the idea that you don't necessarily have to belong to our private coterie in order to be able to help a patient. There are so many!

Dene T. Walters, M.D.

EXPERIENCES OF A NEW DRUG ABUSE PROGRAM IN DOVER

In February 1970 the Dover Drug Abuse Committee asked three practitioners in the community to assist in establishing a Drug Abuse Clinic. The Committee founded by the Dover Century Club had devoted considerable time during the preceding year initiating programs in local schools to educate the students about drug abuse. After several successful programs in the high schools, the Committee felt that their efforts were only partly successful; they could tell young people why they should not get involved with drugs, but they could not advise those abusing drugs on how to stop. Although a drug abuse clinic existed in Wilmington at that time (winter '69-'70), it was of little help for residents of Kent and Sussex County because of its distance.

See Letter to Editor, page 87

We were reluctant to become involved in this type of medicine because of our lack of training in this field. We had little understanding of the motivation of young people who abused drugs, and we doubted whether any good would come out of our efforts at rehabilitation.

Whatever our reservations, it was apparent that there was a local problem of drug abuse. We were getting anonymous notes during some of the high school drug assemblies that there were people trapped in the drug scene, looking for a way out. It seemed that as physicians, we should try to help. Therefore, after consultation with Dr. William Vandervort, Director of the Wilmington Clinic at that time, we opened the Dover Drug Abuse Clinic in April 1970. We were also assisted by several local pharmacists who had been studying drug abuse techniques and patterns in our community. Most of all, we learned from the patients themselves. We were fortunate in having two early patients who enjoyed their positions as our local "firsts" and taught us as much as they could about the drug way of life.

Most of the patients who presented themselves for treatment were heroin addicts. We had a few speed users who were looking for help, a few high school LSD users who wanted information about the safety of their practice, and an occasional marijuana experimenter brought in by a parent for us to convince not to smoke pot. None of these people were interested in psychiatry to help them understand their motivation for drug use. To these we could only offer counselling. Those who continued to return were those who suffered the pains of heroin withdrawal and whom we treated with methadone. In an occasional case where the addict did not want to be treated with methadone, we counselled in the techniques of "cold turkey" withdrawal, or supplied other drugs to blunt the symptoms of heroin withdrawal. So by necessity we are now primarily a methadone clinic, and it is our feeling that any other Drug Abuse Clinic opened in the State will in all likelihood go the same way.

The clinic dispenses its own methadone, which is drunk in a 1 mgm/cc solution of Tang. New patients must attend the clinic daily for several weeks and take their methadone in our presence. We monitor their drug use by frequent urine checks. Knowing this, our addicts will usually tell if they have cheated, and it is not uncommon to have this happen during the early months of rehabilitation. When we feel that an addict is sincere in his effort to continue in rehabilitation, we supply him with a three-day supply of methadone-Tang mixture. This was made necessary because we are seeing a large number of addicts from other areas in Kent County outside of Dover and from Sussex County. This procedure is approved by the Bureau of Narcotics and Dangerous Drugs.

Generally speaking, an attempt is made to withdraw all patients from methadone. We are not able to withdraw an addict who has been on heroin for more than two years. All patients must attend a weekly "Rap" session which is similar to the sessions that take place in A.A. groups. It is here that the "honest" addicts help police those they feel are being dishonest with the program and support each other with stories from their former lives.

The Delaware Vocational Rehabilitation Department has begun to give us assistance by doing guidance counselling, retraining, and job placement. These are the greatest needs people have since so many of them have become drop-outs from the working society. We are also receiving assistance from two local State financed drug guidance counsellors, who do follow-ups, help us run the clinic, and bring referrals to the clinic. The counsellors occasionally ask for medical help and assistance on the patients they are counselling, and we have enjoyed a mutually beneficial relationship with them. Originally the clinic ran on a purely voluntary basis. It now receives state funds to provide a nurse and a secretary, as well as funds for rental of the premises. The physicians, now numbering four, continue to function on a voluntary basis, as we feel this gives us a great deal of leverage with the addicts in convincing them of our sincerity.

We have seen approximately 90 patients with 22 presently under therapy. We note with satisfaction the jump in employment rate of our patients after methadone stabilization, and consider that we in our own way are doing a significant part towards lowering the crime rate in the State. We feel that the use of methadone is well justified, for it offers the addict an immediately available and respectable way out. Our first addicts were slowly withdrawn from methadone and reentered society as drug-free individuals. We have several patients now who have been heroin addicts for too long to be freed of methadone maintenance. Several of these men are able to support their families and to provide useful work at several industries in our community. Marriages have been saved, and children's fathers have been kept at home and in good health.

This article has been written in an attempt to communicate to our fellow physicians in Delaware the experience of four local practitioners who plunged into a drug treatment program with no prior experience. We have learned from our own experience and from the counsel of others who helped us when we were having difficulty. We feel entirely justified in the time that we have spent working in the Drug Abuse Clinic and feel that we have done as much good in our efforts here as we do in our regular practices. There is no question that you are dealing with people in distress.

There is a need for physicians in existing clinics as well as in future clinics in the State. The future clinics can not be established because there is no physician who will give them the necessary few hours a week. It is our feeling that one reason for the reluctance of some physicians to involve themselves is lack of knowledge in this area and repugnance toward anyone who abuses drugs. To those who feel there is a need in their community, we can only say: "Drug abuse is claiming the very young. We feel they are worth the effort."

Walter Omans, M.D.

* * *

Letters to the Editor

Office of Drug Abuse
3000 Newport Gap Pike
Wilmington, Delaware, 19808

To the Editor:

The drug abuse control effort in Delaware needs medical assistance. The State Office of Drug Abuse Control is establishing a list of doctors who are willing to give one night a month to this problem.

The purpose of the program is threefold:

1. To provide medical services to the various drug facilities presently being coordinated by the State Office of Drug Abuse Control.
2. To provide informal non-hospital medical service for youth who are reluctant to go to hospital emergency rooms.
3. To help interested doctors get a new insight into the drug culture of our time.

Programs of this type have been initiated in many parts of the country with excellent results. All the program requires is for you to be on call to our office one night a month. One of the keys to overcoming the drug problem is total community involvement and cooperation. As a doctor, you can make a major contribution by giving some of yourself and your time.

Implementing this program will take time; so we are asking that you respond as soon as possible. Your reaction, whether favorable or unfavorable, is welcomed. If favorable, you will be contacted for scheduling at your convenience. Your professional opinions of this project and the total drug program are appreciated.

Governor's Advisory Council on Drugs
(Mrs.) Nancy Olsen, *Chairman*

* * *

AN ENGLISH DOCTOR TALKS

Whatever system may emerge, I believe that it is vital that the independence of the medical profession be maintained because many will agree that the experience of this country has demonstrated the potential dangers of converting a profession into a Service. The outstanding characteristic of the professional man is that he provides a service and there is a subtle but fundamental difference between providing such a service and being in a Service. And the service that a physician renders his patients is a very personal one indeed; it is essential that it remain that way.

John Lister, M.D., NEJM 295:1249, 1971.

In Brief

In The News

The new chairman of AMA's Council on Legislation is Arthur A. Lampert, M.D., Rapid City, South Dakota. He succeeds William O. LaMotte, Jr., M.D., Delaware's AMA delegate, who has completed his 10-year tenure on the council.

Howard D. Cohen, M.D., Alvin Weiner, M.D., and P. R. Walker, M.D. were among those making presentations regarding the most recent advances in Skiing Injury Care at the symposium, *The Doctor Looks at Skiing*, sponsored by the Pico Peak Medical Association, Rutland, Vermont, February 7-9, 1972.

Dewey A. Nelson, M.D., Chief of Neurology, WMC, and Chief of Neurology, St. Francis Hospital, participated in the qualification examination of the American EEG Society at Johns Hopkins Hospital, Baltimore, Md., on December 5-6, 1971. Dr. Nelson acted as an associate examiner, having been qualified by the examining board in 1966.

Ali Z. Hameli, M.D., Chief Medical Examiner, State of Delaware, was elected Vice-President of the National Association of Medical Examiners at their recent meeting held in Atlanta, Georgia, on March 1, 1972.

Arthur J. Heather, M.D., Medical Director of the Delaware Curative Workshop, has been awarded the 1971 bronze Hope Chest Award of the National Multiple Sclerosis Society by the Delaware Chapter.

Physician To Be Honored

Ali Z. Hameli, M.D., the State Medical Examiner, and Mrs. Arva Jackson, the Governor's Special Assistant for Human Affairs, have been selected to receive the Committee of 39 Good Government Awards for 1972. The awards will be presented at the 16th Annual 'Salute to Good Government' Dinner to be held on Tuesday, April 11 at 7 p.m. in the Gold Ballroom of the Hotel duPont. In addition to presentation of the Good Government Awards, Judge Lisa Aversa Richette of the Common Pleas Court of Philadelphia will speak on *Obstacles or Opportunity: The Law and Social Change.* Your $8.00 dinner ticket will include the cost of parking. To make a reservation (Deadline: April 5) call the Committee of 39 office (656-0766), or write to the Committee of 39, 909 Orange Street, Wilmington, 19801.

Benefit Art Exhibition

The Woman's Auxiliary to the Medical Society of Delaware is sponsoring a "Potpourri of Artistry" on Sunday, April 16th, from 5 to 7 at the Academy of Medicine. Painting, photography, ceramics and needlework will be exhibited. It is a benefit for the AMA-ERF and the Delaware Academy of Medicine Student Loan Fund. Hors d'oeuvres with fruit punch and champagne will be served.

Influenza — United States, 1972

Widespread influenza was observed in 21 states, including Delaware, during the fifth influenza telephone survey of State Epidemiologists conducted on January 31, 1972, by the Viral Disease Branch, Epidemiology Program, Center for Disease Control.

AMA Physician's Recognition Award

AMA's Department of Continuing Medical Education advises all 1969 award recipients that their certificates are valid through June 10, 1972. They and all other US physicians, except those who earned the award in either 1970 or 1971, will receive their applications for the 1972 PRA in September. Physicians who completed 150 hours of specified continuing education activity during the period July 1, 1969-June 30, 1972 will qualify for the 1972 award.

Speakers on "Ask the Doctor"

Speakers for April 1972 on the Tuesday radio program (11:05 a.m., WDEL) produced by the Medical Society of Delaware are: April 4, Richard Forlano, M.D., *Vasectomy;* April 11, Oscar N. Stern, M.D., *Breast and Uterine Cancer;* April 18, Robert T. Beattie, M.D., *The House Call;* April 25, Robert W. Frelick, M.D., *New Hope for the Cancer Patient through Government Stimulus.*

Correct Chlorpromazine Dosage

Development of a test to determine the proper dosage of the drug chlorpromazine will be undertaken on a grant from the National Institute of Mental Health. The immunoassay technique will be used to measure drug levels in the body. Patients' drug levels vary tremendously, and an effective dose for one patient may be too little or too much for another. Chlorpromazine levels in patients' blood plasma are very low, but recently, radioimmunoassay has been shown to be a highly specific, sensitive, and fairly easy way of measuring the level of a variety of drugs and biological chemicals.

CLINICAL NOTICES AND MEETINGS

Pastoral Care Seminars

Seminars on Death and Dying, for clergymen, physicians and health care professionals, sponsored by the Department of Pastoral Care of the Wilmington Medical Center, are being held at the Nursing Residence of the Memorial Division, 8:30-9:30 a.m. Seminar dates and subjects are: *The Social Context of Dying: When, Where and What,* April 6, 1972; *Doctors, Nurses and Hospitals Coping with Death,* April 20, 1972; and *Termination of Life,* May 4, 1972.

Allergic Disorders

Continuing Medical Education will present *Clinical Approach to Allergic Disorders,* April 13-14, 1972, St. Louis University Medical Center, 1402 S. Grand, St. Louis, Mo., 63104.

Biomedical Engineering Seminars

The Division of Health Science and Department of Mechanical and Aerospace Engineering are sponsoring a Joint Seminar Series in Biomedical Engineering at 3:30 p.m., DuPont Hall, University of Delaware. Dates and subjects are: April 14, 1972, *Recent Advances in the Mechanics of the Lung,* and April 21, 1972, *Performance Criteria for Health Care Delivery System.*

Physician's Assistant Conference

The Fourth Annual Duke Physician's Assistant Conference will be held April 20-21, 1972 at the Duke Medical Center. Applications should be submitted no later than April 10, 1972 to: The Fourth Annual Duke Physician's Assistant Conference. Department of Community Health Science, P.O. Box 2914, Duke Medical Center, Durham, N.C., 27710.

Hospital Safety Seminar

The National Hospital Safety Seminar, *Patient Safety and Preventive Medicine As It Applies to Safety,* will be held at Stouffer's Inn, Indianapolis, Indiana, May 1-3, 1972. Contact Mr. Robert R. Schmidt, The National Safety Council, 425 North Michigan Ave., Chicago, Ill., 60611.

Maryland and Hawaii Meetings

Members of the Medical Society of Delaware are invited to the 174th Annual Meeting of the Medical and Chirurgical Faculty of Maryland, May 3-5, 1972, at the Baltimore Civic Center and to the Hawaii Medical Association's 116th Annual Meeting, May 8-12, 1972, Honolulu, Hawaii.

ICEA Convention

The International Childbirth Education Association will hold its 7th Biennial International Convention, May 22-25, 1972 at the Pfister Hotel, Milwaukee, Wisconsin. Non-ICEA members can register for the convention and information is available from: ICEA Convention, 11420 W. Belmar Dr., Hales Corners, Wis., 53130.

ACP Courses

The American College of Physicians will present *Management of Common Chronic Medical Diseases,* May 22-26, 1972, A. B. Chandler Medical Center, University of Kentucky, Lexington and *Progress in Nephrology,* May 24-26, 1972, Georgetown University Hospital, Washington, D. C. For information write: Registrar, Postgraduate Courses, American College of Physicians, 4200 Pine Street, Philadelphia, Pa., 19104.

Community Emergency Medical Services

The Harris County Medical Society and the AMA are co-sponsoring the *First National Symposium on Community Emergency Medical Services,* May 26-27, 1972, at the Astroworld Hotel, Houston, Texas. For information write: Harris County Medical Society, 400 Jesse H. Jones Library Building, Houston, Texas, 77025.

Clinical Center Study

The cooperation of physicians is requested in the referral of patients with valvular heart disease for a study being conducted by the National Heart and Lung Institute at the Clinical Center, NIH, Bethesda. The study is designed to identify clinical and hemodynamic indices that would reliably indicate operative prognosis and would allow identification of the patient with irreversible myocardial changes. Physicians wishing to refer patients for this study should send case summaries of their patients to: Stephen E. Epstein, M.D., Clinical Center, Room 7B-15, NIH, Bethesda, Md., 20014. Telephone (301) 496-5817.

CLASSIFIED AD SECTION

Advertisements under the Classified Ad Section are charged at the rate of 30 words or less, set solid. One insertion $4.00. Call the Journal office, 658-7596 for further information or placement. All advertisements are payable in advance. The Editorial Board reserves the right to edit copy. Closing date for new copy is the first of the month for inclusion in the current issue.

Classified advertisements of a professional nature are free to members.

PATHOLOGIST: ECFMG. FLEX certification from Maine. Experience includes 4 years' residency in anatomical and clinical pathology at Metropolitan Hospital in New York. Presently in one year fellowship in skin pathology.

GENERAL SURGEON: Board eligible. FLEX licensed in Pennsylvania and West Virginia. Four-year residency in general surgery at Charleston General Hospital, Charleston. Will consider general practice. Available July 1972.

ANESTHESIOLOGIST: Completing third year residency at State University Hospital, Syracuse, N. Y. ECFMG. Available July 1972.

INTERNIST: ECFMG. Currently Staff Physician at Hopemont State Hospital in West Virginia. Prefers position as House Physician at a general hospital. Will consider group or clinical institution.

WANTED: Physician-partner for our 1971 34′ Drift-R-Cruz Houseboat. Please call 764-8367 for details. R. Kester.

FOR SALE OR RENT: 903 N. Franklin Street, Wilmington. 1st floor office, 4½ rooms, powder room ($240/month rent). On second and third floors seven-room apartment: Living room, dining room, paneled den, kitchen, three bedrooms, two baths, large closets. Must be seen to be appreciated. Availability negotiable. Mrs. B. Seeherman. Call 764-2690 after 5.

WANTED: Two Primary Physicians to serve as Preceptors beginning in June for two Physicians' Assistants (Delaware residents). Currently in training at Hahnemann. Call 658-7596 if you are interested.

THE FORUM

Environment And Health

TO DIVE OR NOT TO DIVE

Robert L. Meckelnburg, M.D.

From time to time physicians are called upon to examine and certify a patient for skin and/or scuba diving activities. Many times these individuals are told that they should not participate in these sports for rather trivial reasons.

I feel that under the proper conditions almost any individual can participate in some form of skin and scuba diving activities. However, there are certain conditions which are absolute and relative contraindications to diving, and these should be uppermost in the physician's mind when he is examining a patient for these sports. As you will note in the following text, the only age limitation placed upon the sport is minimum age, put there mainly because of the requirement of a certain physical attainment to be able to handle the equipment and basic knowledge necessary for understanding the physiology of diving practices.

I consider the following absolute contraindications to any form of skin or scuba diving:

1. Epilepsy
2. Brittle or unstable diabetics
3. Inability to equalize the pressure in the middle ears and sinuses
4. Alcohol or drug addiction
5. Mentally defectives
6. Unrepaired facial defects

The following would be considered relative contraindications and therefore deserve some comment.

1. Overweight — Here the consideration is more that the person needs to be in good physical condition than merely his total body mass. It would be assumed that if good psyiical condition is achieved, then the weight will take care of itself.

2. Poor physical condition—Although most of the time diving does not require great expenditures of energy, the individual should be capable and have the physical reserve to get himself out of any difficult situation that could possibly arise and could demand more than just the average exertion.

3. Elevated blood pressure — Obviously mild to moderate elevations of the blood pressure probably would have no effect whatsoever on the individual while he is diving. To date there is no experimental evidence that pressure externally applied influences the intravascular pressures. A severe elevation of blood pressure with the concomitant possibilites of causing imminent catastrophes in different organs of the body would contrainincate skin or scuba activities.

4. Perforated ear drums — The possibility of having cold ocean or quarry water enter directly into the middle ear and cause extreme vertigo, of course, has to be obviated. There are apparatuses that allow one to close the external canal of the ear and equalize its pressure through pressure applied from the diving tank. This then acts to keep cold, vertigo-producing water out of the middle ear and at the same time allows equalization of pressure through the breathing apparatus.

5. Acute and chronic sinus problems — Here the main difficulty is again one of being able to equalize pressure in the middle ear and sinus cavities. Obviously, if the passageways such as the Eustachian tube are blocked,

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Dr. Meckelburg is Section Chief, Department of Nuclear Medicine, Wilmington Medical Center.

This page is sponsored by the Delaware Tuberculosis and Health Society.

then this becomes a very difficult problem. Most of these conditions, however, do respond with time and the proper treatment.

6. Claustrophobia — An individual with true claustrophobia would be adversely affected by having a mask applied over the face. Most individuals with a mild degree of claustrophobia can overcome it with proper training. However, the individual who cannot overcome this fear obviously cannot dive.

7. Asthma and emphysema — The severity of the condition dictates whether or not the individual can participate in this type of sporting event. Mild to moderate degrees of either of these conditions probably do not constitute an adequate reason for eliminating the individual whereas severe degrees of either condition would mean that this type of activity would be contraindicated.

8. Myocardial infarction and cardiac defects — Here the basic criterion of whether the individual can dive is whether his exercise tolerance is in the normal range, indicating that the cardiac defect is of a minor nature or that he has had an excellent recovery from a myocardial infarction. In regards to myocardial infarction, the diver while he is under pressure is actually breathing oxygen at higher concentrations than he is on land. Consequently, his oxygen supply to the myocardium is probably better when he is breathing at depth than in any other particular situation he may find himself. However, this does have to be balanced against the possibilities of unusual physical exertion being required of the individual; here again the matter of physical conditioning and training is paramount.

9. Pregnancy — To date there are no known deleterious effects of increased pressure upon the developing fetus. In such a situation where the knowledge of medical science is extremely limited, the patient should be fully informed about all the medical information that is available and then allowed to make her own decision regarding participation.

* * *

Deaths

DR THOMAS V. HYNES, JR.

Dr. Thomas V. Hynes, Jr., died on January 23, 1972, at age 62. He had been in family practice in Wilmington since 1940.

Dr. Hynes was born in New Haven, Connecticut, son of an obstetrician-gynecologist, who was a professor at Yale. His undergraduate medical degrees were obtained at Yale University School of Medicine.

Dr. Hynes was a member of the New Castle County Medical Society, the Medical Society of Delaware, the American Academy of Family Physicians, the Knights of Columbus, St. Helena's Athletic Club, and the American Songwriters and Composers Protective Association.

He was on the swimming team at Yale, and retained an interest and engaged in swimming throughout his life. As a child he studied violin; in later years he published several Christmas carols and an Ave Maria. He had the ability to play many instruments and a keen ear for music.

Dr. Hynes is survived by his wife, Mrs. Helen J. Hynes; his mother, Mrs. Mary Louise Hynes of Wilmington; four sons, Dr. Thomas V. Hynes, III of Rio de Janeiro, Brazil, the Rev. John M. Hynes of Easton, Maryland; Michael A. Hynes of Bellefonte and Dr. Edward J. Hynes of Wilmington; five daughters, Miss Helen P. Hynes of Bellefonte, Mrs. Mary L. Rosen and Mrs. Veronica A. Grady, both of Wilmington, Miss Monica E. Hynes of Washington, D.C., and Miss Margaret M. Hynes of Bellefonte, and three grandchildren.

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SCREENING METHODS FOR LUNG DISEASE

• Screening of lung function is an important aid to the clinical detection and evaluation of lung disease. Screening tests must be simple and rapid. The use of the Timed Vitalometer and the Flow Volume Loop in screening is described. The correlation with pulmonary symptomatology is discussed. Screening shows that smoking cigarettes over 30 years very likely will permanently damage the lung, while lung function may be well preserved for those smoking less than 30 years.

James M. Hofford, M.D.
Ann S. Dowling, PuT.
Theresa A. Hayden, M.T.
Jeanne M. Jamison

The medical literature is replete with articles discussing various screening procedures for lung dysfunction.[1] There is need for a test that will produce informative results. Screening is done for both restrictive and obstructive lung diseases. Obstructive disorders, such as emphysema and advanced chronic smoker's bronchitis, represent the categories with the greatest clinical interest. Screening will detect people in early stages of disease as well as those who have irreversible abnormalities. Early detection and treatment will be the most effective way of arresting the present epidemic of emphysema and chronic bronchitis that we are encountering.

Restrictive diseases of the lung are related to the development of pulmonary fibrosis, weakness of the muscles of respiration, congestive heart failure, or any space-occupying process within the chest.

"What single test can be used to screen for lung disease?" is a frequently asked question.

A detailed history and physical examination are helpful, but not conclusive, and it is not practical to screen large numbers of people in this way.

The chest x-ray alone is not an adequate screening tool; people with emphysema will at times have their chest x-rays reported normal and vice-versa.

Modern concepts dealing with the delivery of health care to various segments of our community have stimulated an interest in screening procedures. These procedures often involve the use of a questionnaire that can easily be completed by para-medical person-

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Dr. Hofford is Director and Mrs. Dowling, Mrs. Hayden and Miss Jamison are Technicians, Pulmonary Function Laboratory, Wilmington Medical Center.

nel. Pulmonary function testing is used to obtain objective screening data. We will discuss the Flow Volume Loop and the Timed Vitalometer.

The Flow Volume Loop is used in the Pulmonary Function Laboratory at the Wilmington Medical Center as a part of all ventilation studies. This is an accurate test, easy to perform, but requiring the use of complex electronic instrumentation and competent technicians. It should be recommended for use in all hospital patients where there is the slightest clinical suspicion that reduced or impaired lung function exists. If the loop is abnormal, more specific study can be done. In essence, the patient breathes through a pneumotachograph, and this registers his flow rate. (Figure 1)* The flow rate is electronically integrated so that simultaneous measurement of volume and flow are recorded. The two values, Flow Rate and Volume are then plotted electronically and simultaneously on an X-Y plotter, and visualized on an oscilloscope. As the patient breathes, a loop is formed on inspiration and expiration and is photographed. This is copied and reported on a separate sheet with appropriate scales drawn on the vertical and horizontal axes. Standard calibration allows 1 cm distance to represent a flow rate of 1 liter/second on the vertical axis, and 1 liter (volume) on the horizontal axis. The loops may be recorded at one-half or twice the standard calibration to allow easy interpretation.

Figure 2 demonstrates a sample Normal Flow Volume Loop. Points marking the beginning of inspiration and expiration are shown. The patient is asked to take as deep a breath as he is able and then to expire as fast and as long as possible. This is a forced vital capacity maneuver. The loop rotates clockwise. Inspiration is represented by the

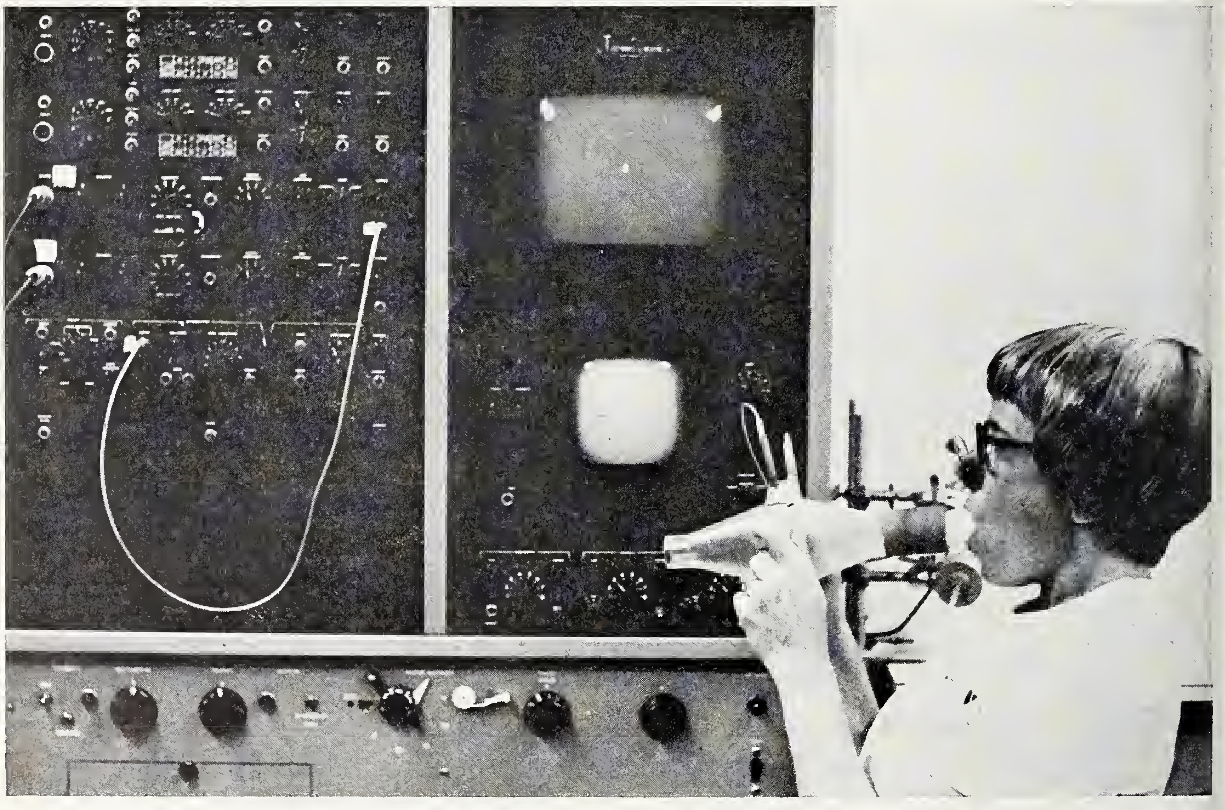

Figure 1. Pneumotachograph is in the patient's hand. Flow Volume Loop is recorded on the lower oscilloscope on the Electronics for Medicine Recorder.

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*Purchased from Electronics for Medicine, 30 Virginia Road, White Plains, New York.

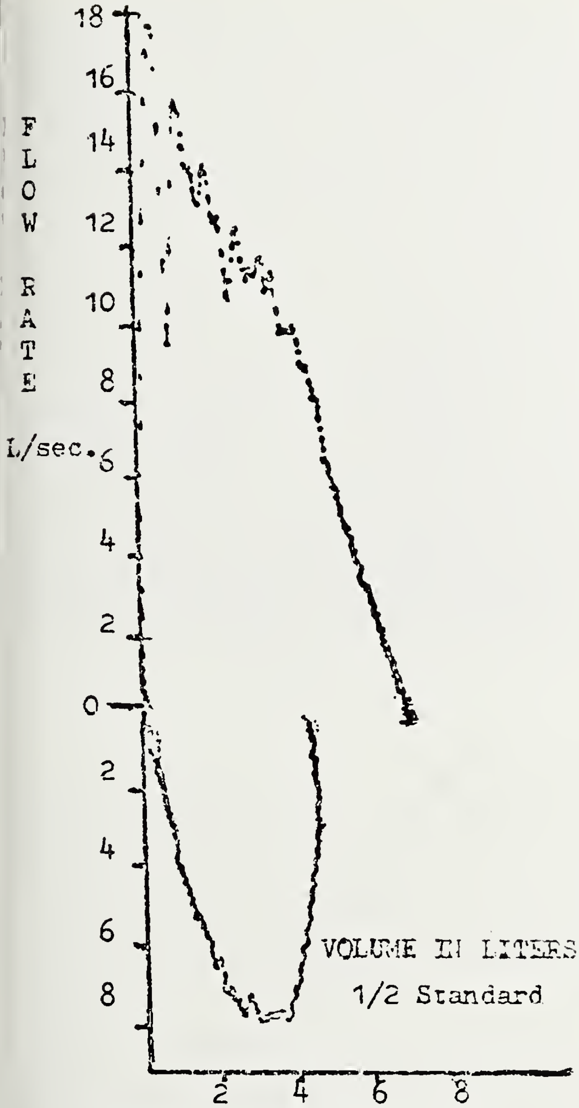

Figure 2. This is a normal Flow Volume Loop taken at one-half standard calibration. The loop would be twice as large on standard calibration.

lower half of the loop, and expiration by the upper half. Peak expiratory flow rate in a normal man will be approximately 10 to 18 liters/second. The inspiratory flow rate is variable. The pattern of the loop should be noted.

Figure 3 shows a Flow Volume Loop typical of advanced pulmonary emphysema. Peak expiratory flow rate is markedly reduced. The abnormality of pattern is quickly appreciated and is due to the flow rate dropping off rapidly during expiration. This produces the marked concavity of the descending limb of the expiratory curve.

Figure 4 demonstrates the Flow Volume Loop that is illustrative of that seen in a patient with asthma. The peak flow rate is not as markedly reduced as it was in the emphysema patient. The degree of concavity of the descending limb is not as severe.

The Flow Volume Loop will produce characteristic patterns for fixed or variable obstructions in the larynx or carina. These are not commonly found and will not be discussed in this paper.[2]

A second piece of instrumentation called the Timed Vitalometer is direct reading, and comparatively easy to use. It provides information that would detect both restrictive and obstructive disease. Its results correlate quite well with the Flow Volume Loop.

The Collins Timed Vitalometer records directly Vital Capacity (VC) and Forced Expiratory Volume in 1 second (FEV_1). The FEV_1 is the amount of air that is expired in one second on rapid expiration, following maximal inspiration. The patient is asked to take a deep breath and blow into the machine as fast and as long as possible. (Figure 5)* One can read directly the Vital Capacity and FEV_1 on a wheel mounted on the top of the spirometer. The procedure is repeated two or three times to be sure that constant values are obtained, and the results recorded. Predicted vital capacity and FEV_1 are obtained from a nomogram. The percent of normal of vital capacity is computed as is the FEV_1/VC ratio. Restrictive disease correlates with a vital capacity that is reduced, usually below 80 and 85% of normal. Obstructive disease is characterized with an FEV_1/VC ratio that is less than 70% of normal. We have observed a consistent correlation between the drop in FEV_1/VC ratio, below 70%, and the abnormalities of pattern on the Flow Volume Loop. The change of pattern of the loop and the reduced peak expiratory flow rate and

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*Purchased from Warren E. Collins, Inc., 220 Wood Road, Braintree, Massachusetts.

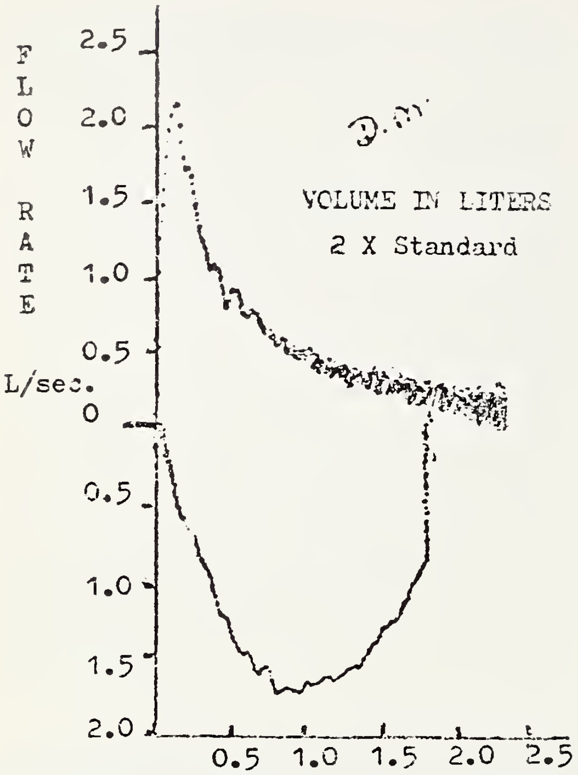

Figure 3. A Flow Volume Loop characteristic of emphysema. The loop was taken at twice the standard calibration. The loop would be one-half this size at standard calibration.

the FEV_1/VC ratio are very sensitive indicators of obstructive pulmonary disease. Indeed, these two entities may be abnormal when the usual measurements of vital capacity, maximum breathing capacity and maximum expiratory flow rates are in the normal or low normal range when measured on a full ventilation study.

We recently screened 49 patients in the General Medical Clinic in the Wilmington Medical Center. We recorded their names, age, height and sex. We asked them about symptoms of cough, wheeze, dyspnea, and sputum production and recorded their responses on a 0 to 4+ basis. We took a smoking history and asked if they had any allergies. We then used a Collins Timed Vitalometer to screen these patients.

Table I demonstrates that in the group studied there was a high percentage of both obstructive and restrictive disease. Only three out of this group were found to be normal. Out of five non-smokers who had evidence of obstructive lung disease, two had a history of having an allergy background.

Table II demonstrates that cough, wheeze, dyspnea and sputum production are by no means specific to smokers, but these symptoms do predominate in smokers compared to non-smokers. Two out of three non-smokers who had these complaints had allergies.

The FEV_1/VC ratio was less than 70% in 64% of the smokers with cough, 66% of the smokers with wheezing, and 50% of the smokers who raised sputum. Certainly a history of being a smoker does not specifically indicate that the patient has lung disease, but

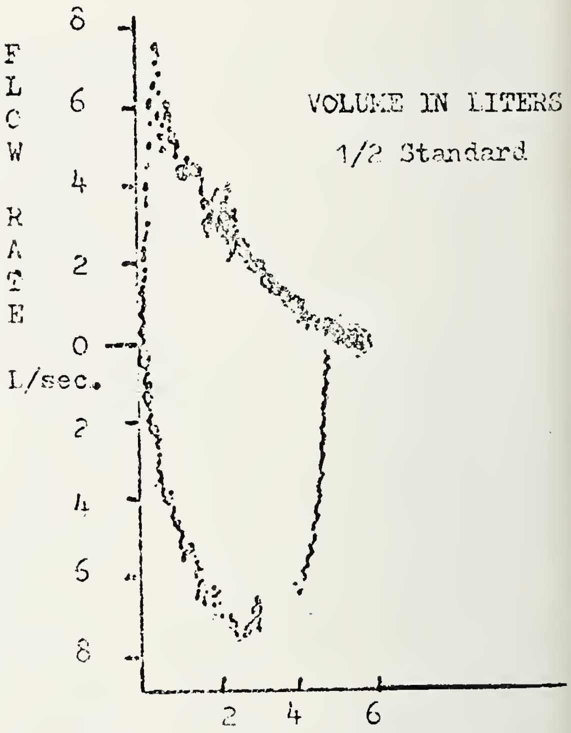

Figure 4. A Flow Volume Loop characteristic of asthma. The loop was taken at one-half standard calibration. The loop would be twice this size on standard calibration.

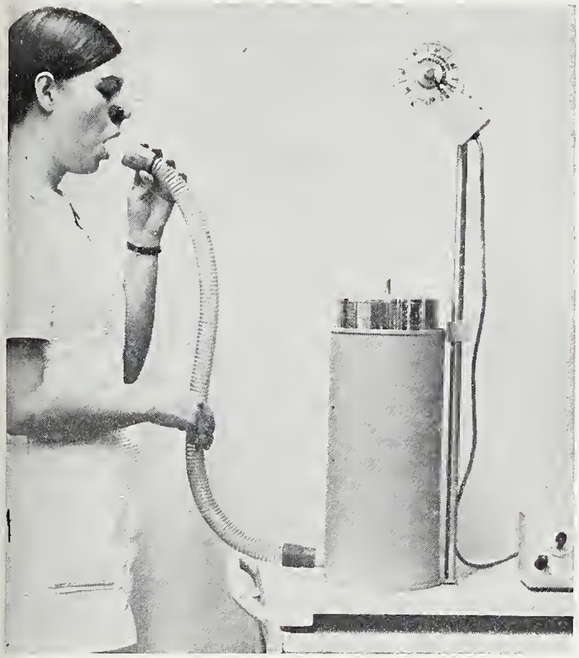

Figure 5
Timed Vitalometer

there is a 50 to 60% chance that he will have significant obstructive disease. Although the numbers are small, the studies suggest that if a patient does not smoke and does complain of cough, sputum production or a wheeze, we should look for some cause such as an allergic background.

Table III shows that if patients have a history of smoking one pack per day for 30 or more years, they are likely to have advanced obstructive disease shown by a reduced FEV_1/VC ratio of less than 70%. By contrast, patients who have smoked one pack per day for less than 30 years have a significant chance that the FEV_1/VC ratio will be greater than 70% and that they will not have progressed to a state of advanced obstructive disease.

Obviously, the clinical history of smoking one pack a day for over 30 years demands screening for obstructive lung disease, and if found, more detailed pulmonary function testing and medical evaluation are in order. The patients who have smoked less than 30 years, obviously, should be screened and should be advised to stop smoking.

TABLE I

Number of patients studied — 49

Age range 17 to 62 years

Average age 46 years

42% (15 to 36) of smokers had an FEV_1/VC less than 70%

42% (5 of 12) of non-smokers had an FEV_1/VC less than 70%

81% (29 of 36) of smokers had a Vital Capacity less than 85% of predicted normal

67% (8 of 12) of non-smokers had a Vital Capacity of less than 85% of predicted normal

3 of 49 had normal Vital Capacity and FEV_1/VC

TABLE II

SYMPTOMS	
COUGH	14 patients:
	11 smokers
	3 non-smokers
WHEEZE	9 patients:
	6 smokers
	3 non-smokers
DYSPNEA	32 patients:
	26 smokers
	6 non-smokers
SPUTUM	10 patients:
	8 smokers
	2 non-smokers

It is important to note that 32 out of 49 patients complained of dyspnea, and this taken into conjunction with the fact that 46 out of 49 patients had abnormal Timed Vitalometer studies, implies that there is a high incidence of cardio-respiratory disease in the general clinic population.

Table III lists three former smokers. Their

TABLE III

SMOKERS

$\frac{FEV_1}{VC}$ = less than 70%

FEV_1 VC	Packs per day	Years Smoking
63%	1/6	5
67%	½	33
65%	½	8
68%	1	45
61%	1	30
47%	1	10
50%	1	30
57%	1	40
56%	½	18
53%	1	59
32%	1	36
53%	½	30
42%	½	45
33%	1	55
33%	1	50

$\frac{FEV_1}{VC}$ = greater than 70%

FEV_1 VC	Packs per day	Years Smoking
93%	1	2
74%	1	20
74%	¾	16
82%	2	12
71%	½	11
73%	1	12
96%	1	38
91%	½	25
73%	1½	4
76%	1	8
79%	1	20
80%	1	6
86%	1	21
88%	1/6	9
83%	occ.	?
81%	occ.	10
77%	1	20
79%	1½	1

FEV_1/VC	Packs	Years
88%	1	30
80%	½	20
91%	1	12

These patients stopped smoking 5, 4, and 1 years ago respectively.

FEV_1/VC ratios were excellent, and tend to support the fact that, if one stops smoking, normal lung function will be maintained, and most probably there will be a significant return of lung function toward normal, as has been recorded adequately in many studies in the literature.[3]

The close correlation between the pattern abnormalities of the Flow Volume Loop and FEV_1/VC ratio is obvious if one considers that the Normal Flow Volume Loop shown in Figure 2 correlates with an FEV_1/VC ratio of 91%. The loop demonstrated in Figure 3 correlated with an FEV_1/VC ratio of 29%, while the Flow Volume Loop in Figure 4 correlated with an FEV_1/VC ratio of 63%.

Summary

Physiological screening of lung function is done in an effort to detect restrictive and obstructive pulmonary problems. Two methods of objective screening are described in this paper. An attempt is made to correlate these methods of testing with respiratory symptoms.

The Flow Volume Loop is a valuable screening tool because it gives a graphic presentation of the patient's breathing pattern. The patterns are characteristic in terms of emphysema, asthma, and normal patients. The loop allows measurement of peak expiratory and peak inspiratory flow rates as well as vital capacity. Only a few minutes are required to perform this test.

A second screening tool is the Timed Vitalometer. This allows measurement of the Vital Capacity (VC) and simultaneously measures the Forced Expiratory Volume in 1 second (FEV_1). The ratio of FEV_1 to VC is a sensitive indicator of the degree of obstructive pulmonary disease. Normally the ratio is 70% or greater. As the ratio decreases, below 70%, the degree of obstructive disease increases.

Patients who have smoked less than 30 years are likely to have relatively normal lung function as determined by the FEV_1/VC ratio.

Patients who have a history of smoking one pack of cigarettes per day for over 30 years are very likely to have significant obstructive pulmonary disease as determined by a FEV_1/VC ratio decreased below 70%.

The symptoms of cough, wheeze, dyspnea, and sputum production are increased in the smoking population. Only 50 to 60% of the people with these symptoms and a history of smoking will have significant obstructive lung disease, as shown by a reduced FEV_1/VC ratio.

The incidence of obstructive and restrictive pulmonary dysfunction was found to be quite high in screening 49 patients in the General Medical Clinic.

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Bernadine Z. Paulshock, M.D., Director of Outpatient Services, Department of Medicine, Wilmington Medical Center, arranged the referral of the patients who participated in our study.

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NITROFURANTOIN IN URINARY TRACT INFECTIONS

Part I

Nitrofurantoin Revisited

William J. Holloway, M.D.

Nitrofurantoin has been available to the clinician for the treatment of urinary tract infections for over 20 years. Released for general use in 1953, this compound was developed as a result of the intensive search for effective antibacterial agents which took place during and after the second World War. While other nitrofuran derivatives have been utilized in the treatment of systemic infection and as topical agents in the treatment of local infection, the usefulness of nitrofurantoin is restricted to urinary tract infections.

Nitrofurantoin exerts its antibacterial effect by interfering with the enzyme metabolism of the bacterial cell. It is bacteriostatic in its action though it may exert a bactericidal effect against susceptible micro-organisms if the concentration of the drug is sufficient. Early studies[1] on this agent demonstrated that it retains its antibacterial activity in the presence of serum, pus and urine.

After oral administration, nitrofurantoin is well absorbed producing low but usually measurable blood levels. Approximately 30-45% of the oral dose of nitrofurantoin is excreted in the urine in eight hours following administration, with the major portion being excreted in the first four hours.[2,3] The urine appears to be essentially free of nitrofurantoin eight hours following the last dose of medication. Concentrations of nitrofurantoin in the urine can reach as high as 40 mg/100 ml during therapy if renal function is normal.[4]

It has been demonstrated in animal studies[4]

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that 4% or less of the orally administered dose of nitrofurantoin is found in the feces. This suggests that absorption of the antibacterial agent is practically complete and there should be insignificant effect on the fecal bacterial count, perhaps accounting for the low incidence of diarrhea seen in patients taking nitrofurantoin.

Studies[5] carried out in dogs demonstrated that nitrofurantoin is handled in the kidney by glomerular filtration and tubular re-absorption. The tubular re-absorption is enhanced when the urine is acidified so that alkalinizing the urine produces higher urinary nitrofurantoin concentrations. However, other investigators[6] have established that the antibacterial action of nitrofurantoin is considerably depressed at a highly alkaline pH, negating the value of urinary alkalinization.

Nitrofurantoin is effective against a wide spectrum of gram-positive and gram-negative organisms though higher concentrations of the drug are necessary for the inhibition of gram-positive bacteria in contrast to gram-negative urinary pathogens.[6,7] *Pseudomonas sp.* appears to be invariably resistant to nitrofurantoin, and this micro-organism has been reported[6] to be the most frequent secondary invader in patients receiving nitrofurantoin therapy. Nitrofurantoin is effective against most clinical isolates of *Klebsiella*, *Enterobacter*, and *Escherichia coli.* Approximately one third of the clinical isolates of enterococcus show *in vitro* resistance to this agent as do a majority of the strains of *Proteus sp.*

There is considerable controversy in the literature[1,2,8-10] concerning the efficacy of nitrofurantoin in the treatment of *Proteus* urinary tract infections. In spite of the demonstrated *in vitro* resistance a number of clinicians[11,12] have reported that nitrofurantoin is an extremely valuable agent in the treatment of infections of the urinary tract owing to this gram-negative bacillus. In fact, some authors report[2,13] success in treating proteus infections even when the organisms demonstrate *in vitro* resistance. However, Brumfitt,[14] in a study comparing ampicillin and nitrofurantoin in patients with urinary tract infections, found that nitrofurantoin gave poor results in the treatment of *Proteus mirabilis* infections in spite of the fact that many organisms were sensitive when tested *in vitro*.

An evaluation of *in vitro* susceptibility testing with nitrofurantoin has been reported[15,16] by Finegold with the conclusion that susceptibility to the 100 microgram nitrofurantoin disc correlates with the clinical response. However, he cautions that certain organisms fall in a range of susceptibility not detected by the 100 microgram disc and still may respond to nitrofurantoin suggesting that test-tube susceptibility testing is necessary in some instances.

Treatment of Acute Urinary Infections

Numerous clinical studies have reported[1,2,3,17] the efficacy of nitrofurantoin in the treatment of acute urinary tract infections in children and adults. In adults the dosage schedule has varied from 50 to 100 mg of nitrofurantoin given four times daily. It appears that the 50 mg four times daily dose of nitrofurantoin is adequate in the treatment of patients infected with susceptible gram-negative organisms. However, with more resistant organisms and with gram-positive bacteria a dosage of 100 mg given four times daily may be required.[7] The usual dose in children is 5 mg per kilogram of body weight. Duration of therapy in patients with acute urinary tract infection need not exceed seven to ten days. Extensive experience with nitrofurantoin in acute uncomplicated infection confirms efficacy with a high cure rate and low relapse rate. We will therefore dispense with further review of the use of this agent in such infections. Nitrofurantoin, like other agents, is less successful in the treatment of chronic or complicated urinary tract infections.

Early studies[2,3,4] on nitrofurantoin indicated that resistance to this antibacterial agent developed slowly *in vitro* and *in vivo*, predicting that this should be a satisfactory drug for the treatment of chronic and complicated urinary tract infections. There are some reports in the literature to substantiate this contention. Jawetz and co-workers reported[3] in 1957 that 32 patients with chronic urinary tract infection treated for periods lasting from 14 days to 17 months remained abacteruric during therapy (only to relapse soon after the drug was discontinued). In a report by McGeown,[18] 21 patients with renal calculi and infection were treated with nitrofurantoin; 50% of the patients had a sterile urine after 14 days of treatment, and three months following the cessation of therapy approximately one-third of these patients remained abacteruric. Such results would speak well for the use of nitrofurantoin in chronic complicated urinary tract infection. However, Hasen and Moore[1] studying 77 patients with chronic urinary tract infection reported a cure rate of only 20.8% in patients with chronic infection.

In a study[19] of 83 patients with chronic recurrent urinary infection without evidence of obstructive uropathy or foreign body, nitrofurantoin treatment was continued for a period of up to three years with a subsequent follow-up on one to five years. This agent controlled the urinary infection in 94% of the patients who were under observation for at least one year. However, recurrence of infection necessitated re-administration of nitrofurantoin in 46% of the patients studied. In a study of chronic infection in children comparing long-term nitrofurantoin therapy with sulfonamide, Pryles and co-workers reported[20] that nitrofurantoin and sulfonamide appeared to be equally effective in clearing the urine of bacteria. However there was earlier recurrence of infection in the urine after nitrofurantoin therapy than after sulfonamide therapy suggested that nitrofurantoin was not related to the low concentration of nitrofurantoin in the serum. Colmore and Baden[21] in a study of 62 patients with chronic pyelonephritis treated with long-term nitrofurantoin therapy conclude that treatment with this agent was as effective as any other regimen used in their pyelonephritis clinic and suggested that it is not necessary to have a serum level of nitrofurantoin to produce good therapeutic results.

The oft-quoted Public Health Service Cooperative Study[22] on the prevention of recurrent bacteriuria with continuous chemotherapy suggested that nitrofurantoin was not as effective as methenamine mandelate. However, it should be noted that the number of patients included in this study was relatively small.

An important consideration in the treatment of patients with chronic urinary tract infection is the renal excretory function and the effect that this may have on the concentration of the antibacterial agent in the urine. Some authors have reported[23,24] that with impaired renal function adequate therapeutic levels of nitrofurantoin cannot be obtained in the urine. Sachs reported[24] in 1968, that little nitrofurantoin is recovered in the urine of azotemic patients despite its rapid renal clearance, probably because of extensive extrarenal drug removal reflected by the short half-life in the serum. Patients with impaired renal function were dosed with nitrofurantoin and it was noted that little or no drug was recovered in the urine during a ten-hour collection period. In view of this, these authors suggest that nitrofurantoin is contraindicated in uremic patients. However, in such patients with urinary infection one may observe[3] improvement of the infection and renal function at the same time.

Nitrofurantoin has been utilized as a prophylactic agent in prospective studies in patients undergoing prostatic surgical procedures. Some authors[9] have felt this use of nitrofurantoin to be justified with a subsequent lower incidence of postoperative urinary tract infection. Others report[25] little difference in postoperative fever and pyuria in patients receiving nitrofurantoin when compared to control patients. Some suppression of urinary pathogens postoperatively was outweighed by the occurrence of resistant strains of *pseudomonas* and *staphylococcus aures* in the patients who were treated with nitrofurantoin.

Side Effects

Though nitrofurantoin is an effective antibacterial agent in the treatment of acute and chronic urinary tract infections in children and in adults the frequent occurrence of side effects has limited its use by many clinicians. In early studies[1,3,9,12] with nitrofurantoin a high incidence of gastrointestinal side effects was reported with approximately 30% of the patients complaining of nausea or vomiting, and in 10% of these patients symptoms necessitated cessation of therapy. However, diarrhea is a rare side effect because of the insignificant concentration of nitrofurantoin in the lower intestinal tract.[4] The gastrointestinal side effects are dose related; and if the total daily dose is kept at 200 mg a day or less, it appears that nausea is much less likely to develop.[3,7] Other significant untoward reactions from nitrofurantoin include headache, dizziness, and various neurologic disorders including peripheral neuropathy.[1] Skin rashes, including fixed drug eruption and urticaria, occur[1,9] in about one percent of the patients treated. Transient alopecia was reported[19] in four patients receiving long-term therapy for chronic urinary infection.

Occasional severe hematologic reactions, including leukopenia and hemolytic anemia, have occurred[3,26] with nitrofurantoin therapy. These episodes have been reversible after therapy has ceased.

Pulmonary Reactions

The pulmonary reactions seen with nitrofurantoin therapy present two interesting and at time perplexing clinical syndromes.[27,28] There is an acute type of pulmonary infiltration beginning two hours to ten days after the initial dose of the drug, with symptoms consisting of fever, chills, cough, and shortness of breath. Chest x-ray in these patients reveals a patchy type of infiltrate, usually in the lower lung fields and often bilateral. The radiologic findings frequently resemble pulmonary edema while in occasional cases there are no demonstrable changes on chest x-ray. In 1967 Morris reported[28] a patient in whom there was a significant eosinophilia associated with the pulmonary infiltration. At the time of his report only three cases had been reported in the literature with eosinophilia associated with the nitrofurantoin reaction. This acute type of pulmonary reaction from nitrofurantoin is reversible on discontinuing the antibacterial agent. Not infrequently, patients who are taking nitrofurantoin for urinary tract infection describe "flu-like" symptoms with generalized aching, cough, and fever, and discontinuance of the drug usually results in rapid reversal of symptomatology.

Rosenow and co-workers[27] reported on five patients whom they categorized as having probable chronic nitrofurantoin pulmonary reaction. The interval between the initial dose of nitrofurantoin and onset of pulmonary symptoms ranged from six months to six years while the duration of pulmonary symptoms varied from seven weeks to six years before the nitrofurantoin therapy was stopped. In only one of these patients was there a history of febrile reaction associated with the pulmonary symptoms. Lung biopsy in these patients showed chronic interstitial pneumonitis or fibrosis, and four of the five patients in this group showed improvement in the pulmonary process when nitrofurantoin was discontinued and steroid therapy instituted.

Adverse reactions in patients receiving nitrofurantoin or two sulfonamide preparations were compared[29] in a total of 2,118 courses of therapy. The incidence of side effects requiring cessation of therapy was 3% in patients receiving sulfonamides and 9.2% in those receiving nitrofurantoin. Also, toxic reactions (not requiring cessation of therapy) were far more common with nitrofurantoin than with the sulfonamides. These authors conclude that the selection of nitrofurantoin for the treatment of patients with urinary tract infection increases the likelihood of a significant side effect, threefold, compared to utilizing a sulfonamide. In their opinion, the nausea and vomiting from nitrofurantoin results from its effect on the central nervous system rather than on the gastrointestinal tract. This conclusion is supported by the rare occurrence of heartburn, abdominal pain, or gastrointestinal bleeding in patients taking this antibacterial agent.

While the ingestion of nitrofurantoin with food or milk is generally recommended to prevent nausea, this suggestion did not influence the incidence of side effects in Koch-Weser's study.[29]

Micro-Crystal vs. Macro-Crystal

Since the gastrointestinal side effects of nitrofurantoin appear to be mediated through an effect upon the central nervous system, it was postulated[30] that a slower absorption rate might reduce the frequency of gastric disturbance seen with this antibacterial agent. Animal investigation showed that nitrofurantoin prepared in micro-crystal form is absorbed into the blood stream at a slower rate with subsequent excretion into the urinary tract. Studies[30] carried out in dogs revealed that the larger crystals of nitrofurantoin are much less provocative of vomiting than the smaller crystals, and the authors conclude that this is, in fact, due to the slower rate of absorption. There are several reports[31-33] in the literature indicating that the macro-crystal form of nitrofurantoin is significantly less likely to cause gastorintestinal side effects than the original micro-crystal form of the product. In the opinion of this reviewer, none of these studied were well controlled nor are the results convincing. The largest study[31] involves 399 patients treated in a cooperative effort by 23 investigators. While the study is said to have been randomized, no description is given of the randomization technique, and the authors admit to the incompleteness of reports from the cooperating physicians, except in regards to the tolerance to the two formulations of nitrofurantoin. In fact, in this paper the authors state that in the randomized portion of the study there was actually no significant difference in the reaction rate with the two test preparations.

In a second study,[33] patients were divided into two groups. One half received nitrofurantoin tablets while the second group were given the macro-crystals of nitrofurantoin in capsule form. Five patients who received the nitrofurantoin tablet experienced significant gastrointestinal effects. Therapy was discontinued for 24 hours, and then these five patients were dosed with the macro-crystal form of nitrofurantoin without evidence of adverse reaction. The 31 patients who were given the macro-crystals of nitrofurantoin originally did not show any gastrointestinal side effects from the medication. Unfortunately, no attempt was made to randomize patient selection in this study.

A recent report[32] in the Japanese literature details a study comparing macro-crystals of nitrofurantoin prepared by the Yamonouchi Pharmaceutical Company with nitrofurantoin in the micro-crystal form. The authors conclude that a lower incidence of side effects resulted from the macronized form of the preparation. However, review of their data would suggest that, in fact, there was no significant difference in the incidence of side effects noted in the tested groups. Therefore, while there appears to be no question concerning the comparable efficacy of the macronized formulation of nitrofurantoin, there is still no convincing evidence of a lower incidence of side effects with this preparation.

A well-controlled, double blind study utilizing a large volunteer population might shed light on this controversy.

Summary

In preparation of this review of clinical experience with nitrofurantoin a representative portion of the available literature was studied, and it is obvious this compound has been valuable in the treatment of patients with acute, chronic, and complicated urinary tract infections.

The potential toxicity of nitrofurantoin would limit its consideration as the first-choice agent in the treatment of patients with acute, uncomplicated urinary tract infection. Rather, it should be reserved for the occasional patient with acute infection who does not respond to one of the *first-choice* antibacterial agents. In the treatment of chronic urinary tract infection one must depend upon the *in vitro* susceptibility testing and nitrofurantoin might more often be the preferred agent in this clinical situation. The apparent slow development of *in vitro* resistance makes this drug particularly valuable in the treatment of chronic, complicated infection. While significant side effects are frequent, serious toxicity from this preparation is extremely rare, and the clinician should not be reluctant to institute a clinical trial. There is no conclusive evidence, in humans, that the macro-crystal form of nitrofurantoin is better tolerated than the micro-crystal formulation.

This is part I of Dr. Holloway's paper: Nitrofurantoin in Urinary Tract Infections. A second installment, Clinical Experience with the Macro-Crystal Form of Nitrofurantoin (Macrodantin®), will appear in the May issue.

ACKNOWLEDGEMENTS

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REHABILITATION OF THE CORONARY PATIENT

Nanette K. Wenger, M.D.

Coronary atherosclerotic heart disease, presenting as angina pectoris or myocardial infarction, is a major health problem affecting over 20 million people in the United States. Each year more than 600,000 persons die from myocardial infarction, and more than half of these die suddenly before reaching medical care. The total cost of illness, including lost income and payment for medical care, is greater than $10 billion annually; over 50,000,000 man-days of production are lost each year because of coronary atherosclerotic heart disease. It is no wonder that not only patients, their families, and their physicians, but also employers, insurance companies, and the economists fear the consequences of myocardial infarction.

For the past several years, we have tried to turn this fear and concern into constructive rehabilitation programming. Rehabilitation can be defined as the process by which an individual is restored to and maintained at his optimal physiologic, psychologic, social, emotional and vocational status. To achieve these aims, we have included in our rehabilitation program an extensive educational effort, directed not only at the patient and his family, but at his employers, labor organizations, insurance companies, Workman's Compensation groups, and the general community within which the patient is to function. Through this educational program we educate against unwarranted invalidism for patients after myocardial infarction, resulting

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from a combination of myth, misconception, and mismanagement.

A recent survey by the Rehabilitation Committee of the American Heart Association[1] has shown that over 85% of patients under age 65 who survived for one year after an uncomplicated myocardial infarction had returned to work by two to four months after infarction, dependent on the physical work of the job.

Areas for patient education include normal heart function; alteration of structure and function by coronary atherosclerotic heart disease and myocardial infarction; the names, purpose, effects, and side-effects of medications; reasons for diet alteration with specific instructions for implementing them; reasons for early physical activity restriction and subsequent advantages of a gradually progressive exercise program; warning signs and symptoms, especially chest pain and arrhythmia, and what to do about them; factors in secondary prevention of myocardial infarction, etc.

The other equally important phase of our rehabilitation program is a progressive physical activity regimen, designed to overcome the deleterious effects of bedrest.[2-6] Prolonged strict bedrest results in diminished physical work capacity, an elevated pulse rate response to submaximal work, decreased adaptability to changes in posture, and reduced cardiovascular function as measured by maximal oxygen uptake.

A progressive program of return toward normal living also helps reduce the depression and anxiety which commonly accompany acute myocardial infarction. Epidemiologic studies and uncontrolled observations suggest that physical activity may affect the natural history of coronary disease by reducing the incidence of recurrent infarction and the mortality from recurrent infarction, but data are not yet available to substantiate these benefits.

Over the past four years, about 1,500 patients hospitalized for acute myocardial infarction at Grady Memorial Hospital and the Emory University School of Medicine have been involved in an active, early intervention, rehabilitation program. This is a 14-step series of gradually increasing physical activity levels involving three main areas: actual exercises; activities of daily living, particularly self-care; and recreational and educational activities.[7-8] The patient is considered eligible to begin his rehabilitation program when there is no evidence of persistent chest pain, shock, significant cardiac arrhythmia, or congestive heart failure. The early phases are begun in the Coronary Care Unit and consist primarily of range of motion exercises. The patient is then allowed to sit in a chair, to walk about the room, then to walk down the hall, and finally to climb steps. Symptoms, particularly breathlessness or chest pain, heart rate and blood pressure response, and electrocardiographic changes are observed during physical activity. The appearance of pain or dyspnea, arrhythmia, or significant tachycardia, a drop in systolic blood pressure, or increased ST segment displacement on the electrocardiogram shows that the response is disproportionate to the effort; these constitute indications for decreasing the level of physical activity.

After discharge from the hospital, and following multilevel exercise testing to permit an exact prescription of exercise, an outpatient exercise program is designed for each patient. This includes a short period of warm-up exercises, a walk-run sequence, and finally a cooling down period. The desired pulse rate indicated for the walk-run sequence is about 70-75% of the highest heart rate safely achieved at exercise testing. Following 8 to 12 weeks in this program, many patients can safely be dismissed to less supervised community exercise programs.

This program has proved to be feasible and safe. One patient in the Coronary Care Unit developed ventricular fibrillation, which was successfully terminated, during passive range of motion exercises. There was no other known episode of cardiac arrest, recurrent myocardial infarction, or other major catastrophe directly associated with the physical activity program.[9]

It has been estimated that, if the duration of hospitalization for each patient with myocardial infarction could be safely decreased by just one day, in the course of a year this would reduce the cost of medical care in this country by about $40 million. A gradually progressive physical activity program appears to permit earlier return home for the myocardial infarction patient, with earlier resumption of a normal pattern of living.

Coronary atherosclerotic heart disease tends to have a familial pattern of occurrence. Therefore, a patient and family education program can serve not only as a secondary prevention effort for the myocardial infarction patient, but also as a primary prevention program for his family as well. The advent of the Coronary Care Unit has done much to add years to the lives of myocardial infarction patients; the rehabilitation effort is designed, in great part, to add life to these years.

Many years ago Lord Lister, lecturing to a medical school class, commented: "You must always be students, learning and unlearning, to your life end, and if, gentlemen, you are not prepared to follow your profession in this spirit, I employ you to leave its ranks and betake yourself to some third class trade." The Rehabilitation Program is an outgrowth of our learning and realization that many patients can readily return to normal living following an acute myocardial infarction.

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WHAT'S NEXT?

Illness is twice as frequent among families classified as poor. . . . The many Federal programs, while providing help for some few, have failed to help the many. Fewer than nine million poor people are able to take advantage of Medicaid, leaving more than 30 million unable to afford medical care. . . .

The private practitioners of medicine have a real responsibility to help improve medical care. This responsibility includes locating offices accessible to the poor, it includes limiting or eliminating the high costs which deny medical care to so many.

But private efforts, despite the recent emphasis on voluntary efforts coming from Washington, will always leave a great deal to be desired. The day must come when government insures that every person is guaranteed medical and dental care, and that every person in need has a hospital bed. . . .

If a consumer happens to live somewhere in rural America, he faces special obstacles when he seeks to secure health services for himself or his family. He need not be black or even poor to live in one of the 116 counties throughout the country with no doctor, or in one of the 164 counties with only one doctor, or in one of the hundreds of other counties with no more than a handful of doctors. . . .

No more basic reform is needed than that the health care system devote its energies solely to implementing the right of decent health care for all. Reform of this nature can not and should not come from within the present health establishment. If health care is truly to be a right, the interests of the consumer must be overriding in the system, and health care institutions must be structured to respond to those interests.

Julian Bond

Excerpted from Mr. Bond's address to the 182nd Annual Meeting of the Medical Society of Delaware, October 1971.

Books

MICROBES and MORALS by Theodor Rosebury, Viking Press, Inc., New York, 1971, Price $7.95.

Theodor Rosebury, an emeritus professor of bacteriology and successful author, has turned from man's bacterologic milieu, the subject of his entertaining book, *Life on Man*, to review man's experience with venereal disease. The cover flap of *Microbes and Morals* quotes the author as saying, "I didn't write this book for doctors, I wrote the book for young people." Dr. Rosebury's diclaimer is endorsed by this reviewer, who found most portions of the book too detailed to maintain interest. Unfortunately, the author's desire to interest the young readers, members of the generation most involved with venereal disease, may also be frustrated, as the young people in my acquaintance have likewise found the book too tedious to hold one's attention.

Physicians interested in venereal disease should be attracted to Dr. Rosebury's hypothesis regarding the mutation of nonpathogenic spirchetes and eisseria, indigenous to man, into the virulent disease-producing organisms which are the etiologic agents of syphilis and gonorrhea.

A major portion of this book explores the possible historical origins of venereal disease and its transmission to various areas of the world. There is coniderable attention given to the old debate concerning the introduction of syphilis to the Old World by the 15th century New World explorers. The author endorses the majority opinion that venereal disease existed in Europe centuries before the American expeditions, albeit perhaps unrecognized.

Several chapters are devoted to recounting the many accounts in the Holy Bible thought to be referring to venereal disease and more obvious such references found in the dramas by William Shakespeare. As is often the case in writings on this subject, there is a chapter-long recitation of the famous and infamous people suspected or proven to be suffering from venereal disease with speculation as to the possible effect or each affliction on world history. Morbid curiosity or consolation for veneral disease sufferers may account for this interest in the genital infections of historical greats.

The latter portion of the book is devoted to a discussion of the problems of gonorrhea and syphilis control throughout the world. Dr. Rosebury anticipates that some change might occur in our sexual mores or attitudes prompting a decrease in the incidence of related disease. However, since our scientific and social "advances" have contributed to the current venereal disease prevalence; a hope for reversion of these trends in the near future seems unrealistic. More practical and scientifically sound are his evalutions of the status and potential of immunization against gonorrhea and syphilis.

The author accepts the reports of virtual elimination of venereal disease in China and Cuba (by proclamation) and marked reduction of these diseases in Russia (by understanding). Without minimizing the efforts of these nations to control sexual promiscuity, past experience would suggest a credibility gap between the reported rates and actual rates of venereal disease.

I can recommend this volume to scientific and nonscientific students of the venereal disease problem but would hesitate to suggest it for casual or even enjoyable reading.

William J. Holloway, M.D.

* * *

DARWIN'S VICTORIAN MALADY, Evidence for Its Medically Induced Origin by John H. Winslow, American Philosophical Society, Philadelphia, 1971, Price $2.00.

If syphilis is the protean disease, then surely arsenic is the protean poison. Not too many years ago, I recall that Napoleon Bonaparte's demise (on the island of St. Helena in 1821), which has for years been attributed to cancer of the stomach, was really due to arsenic poisoning.

Now in a scholarly but highly readable publication, Winslow, whom the title page lists as a member of "The Department of Geography - Anthropology, California State College," presents an excellent case for Charles Darwin's life-long chronic illness having actually been the result of arsenic poisoning, arsenic administered as a medicant over many years.

Darwin's grandfather and father were both physicians, and during the younger Darwin's century (Charles Darwin's dates were 1809 to 1882) Fowler's solution was widely prescribed. Fowler's solution, an arsenic based formula flavored with cinnamon, was first promulgated by Thomas Fowler in 1786 in an article entitled "Medical reports of the effects of arsenic in the cure of agues, remitting fevers, and periodic headaches."

A note from Darwin to his sister just before he left for his five-year voyage on the Beagle, asked for his father's opinion regarding Charles' taking arsenic for a little time "to cure an eruption" on his hands. The implication was clear that he had previously taken arsenic while a student in theology at Cambridge. Whether he originally began at the suggestion of his father, or as his own idea, since he had previously himself been in medical school at Edinburgh, is unclear.

For the rest of his life, after his return from his five years of scientific voyaging, Darwin's ill health restricted him to the life of a semi-invalid recluse, and by numerous of his own statements his general well-being was such that he could work only several hours of the day. Other medical historians have called him a neurasthenic. One has even proposed that Darwin's strict upbringing by a domineering father plus his own homosexual attraction to Captain FitzRoy of the Beagle were responsible for his numerous symptoms, which included eczema, boils, edema, corn-like excrescences of his fingers, a brown complexion, vertigo, giddiness, fainting feelings, headaches, trembling, early baldnes, tooth and gum problems, arthritis, bad heat control, heart palpitations, nausea, vomiting, flatulence, a poor and fluctuating appetite, a chronic state of exhaustion, insomnia, a great feeling of being unwell, etc., etc.

Darwin's health improved somewhat after the age of 63: did he stop taking arsenic at some time in middle life?

The possibility, even probability, that Darwin suffered for most of his life from chronic arsenic poisoning is not as awful as the possibility raised by the research attendant on this thesis that many of the Victorian intelligensia whose illnesses have been described as chronic dyspepsia and hypochondria were attended by the same physician, Dr. James Clark, one time physician to Queen Victoria. No records of Clark's personal pharmacopoeia are available except that it is known he favored calomel, a mercuric laxative, and at that time arsenic was often prescribed along with calomel as a purge or by itself for headache, for neuralgia, for improper functioning of the uterus and the bowels, and as a general health tonic. Is it possible that Thomas Huxley, Thomas DeQuincy, George Eliot, Thomas Carlyle, Robert Browning, and other lesser known unfortunate Victorians were the victims of chronic arsenic poisoning by their doctors?

Winslow has credible evidence that indeed it is possible. I recommend his book to those interested in history, in the history of medicine, or even, if non-historically inclined, to those physicians who occasionally stop to worry about the possible known effects of the drugs they are today prescribing.

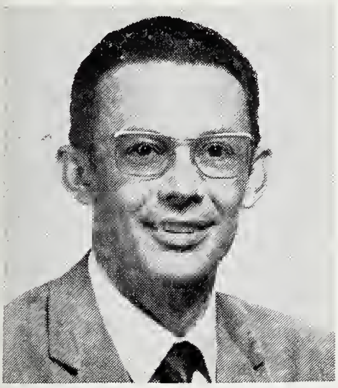
What will the historians of tomorrow be writing about us?

Bernadine Z. Paulshock, M.D.

* * *

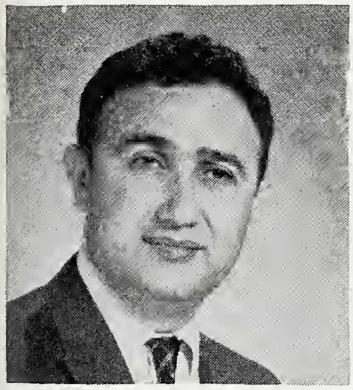
> "When you meet with a fact opposed to a prevailing theory you should adhere to the *fact* and abandon the theory even when the latter is supported by great authorities and generally accepted."
>
> *C. Bernard*

New Members



Jose P. Berna, M.D., a graduate of the University of Madrid Faculty of Medicine in his native Spain, served his internship at the Barnert Memorial Hospital, Paterson, N. J., his residencies at Harlem Valley State Hospital, Wingate, N. Y. and Hudson River State Hospital, Poughkeepsie. After two years' practice in Spain, Dr. Berna returned to the United States. He practices his specialty, Psychiatry, at 2401 Pennsylvania Avenue Wilmington. Photography, carpentry, classical music, stamp collecting, and hi-fi equipment are his hobbies. Dr. and Mrs. Berna have four children and reside in Chalfonte, Wilmington.

J. Joaquin Palacio, M.D., a graduate of the University of Antioquia, Colombia, '62, is a board-certified obstetrician-gynecologist. His internship was spent at the Memorial Hospital, Wilmington, and his residency at the Wilmington Medical Center. He is a member of the American College of Obstetricians and Gynecologists. Dr. Palacio's office is located at 3101 Limestone Road, Wilmington. Dr. and Mrs. Palacio, their daughter, and two sons will be soon moving into a new home in suburban Wilmington. Dr. Palacio's avocational interests include soccer, golf and chess.

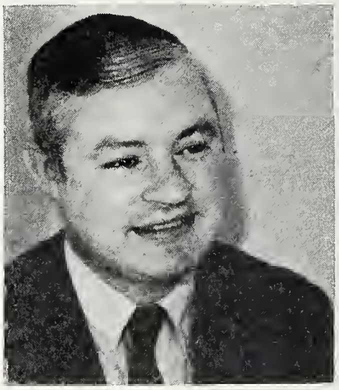


Ilhan M. Tuzun, M.D., a graduate of the Faculty of Medicine, University of Ankara '57, served his internship in Washington, D. C. and his residency in Milwaukee, Wisconsin. Prior to coming to Delaware Dr. Tuzun practiced in Canada. He now practices Internal Medicine at 327 E. Main Street, Newark. The Tuzun family, consisting of Dr. and Mrs. Tuzun and three children, reside in North Star near Newark. Dr. Tuzun's interests include photography and traveling.

Louis J. Centrella, M.D., graduated from Jefferson Medical College and spent his internship at Cooper Hospital in Camden, N. J. He served two years in the U.S.P.H.S. in New Mexico. He now practices Family Practice at 2055 Limestone Road, Wilmington. Dr. and Mrs. Centrella and their two-year-old twins live in Newark. Dr. Centrella enjoys photography and studying Indian culture.

A. M. Mamunul Islam, M.D., after graduating from Dacca Medical College, emigrated from his native Pakistan in 1960 to serve an internship and residencies in Internal Medicine in New Jersey, Michigan and Ontario. In addition, he had a fellowship in Cardiology at Boston City Hospital. Dr. Islam is now Chief of the Medical-Surgical Service of the Delaware State Hospital in New Castle. Dr. and Mrs. Islam and their two sons live in Penn Acres, New Castle, where Dr. Islam relaxes with his gardening, fishing, or photography.

Charles R. Rickards, M.D., a Pennsylvanian, received his medical training at Temple University School of Medicine, '63. Following a rotating internship at Delaware Hospital, Dr. Rickards served a residency in Ophthalmology at Wills Eye Hospital and St. Christopher's Hospital in Philadelphia. Board-certified in Ophthalmology, Dr. Rickards practices in the Professional Building, Wilmington. Dr. Rickards enjoys furniture refinishing and antique collecting for his home in Guyencourt plus fishing, hunting and sailing. Dr. and Mrs. Rickards have two young sons and a baby daughter.



J. Bartley Stewart, Jr., M.D., a native Delawarean, graduated from the University of Delaware and Jefferson Medical College, '64. His internship and pediatric residency were spent at the Delaware Hospital. After army service he opened his practice in Pediatrics in the Newark Medical Building, Newark. Dr. and Mrs. Stewart and their two young daughters live in Newark.

David W. Messinger, D.O., is a graduate of the Kansas City College of Osteopathy. Following internship at the Riverside Hospital in Wilmington, Dr. Messinger entered General Practice in Wilmington. His office address is 112 S. Maryland Avenue. Dr. Messinger enjoys sports, music, and travel during his free moments. Dr. and Mrs. Messinger and their three children reside in Marshallton.

Editorials

WHAT SHOULD A MAN EAT, 1972?

Diet, especially as related to atherosclerosis and coronary heart disease, has been and is being widely discussed in current medical and even lay literature. Several reviews have recently been published in this *Journal*.[1,2] Dr. Irvine H. Page expressed his personal view in the December 27, 1971 issue of *Modern Medicine*.[3] The consensus seems to be to stress low calorie intake, reduce the amount of saturated fat by eating proportionally more polyunsaturated fat, reduce the amount of alcohol intake which is metabolized as a short chain fatty acid, and reduce the proportion of carbohydrate as suggested, among others, by Dr. Peter Kuo[4] because of a large number of individuals found with carbohydrate induced hyperglyceridemia. The result of the National Heart Study is in general in accord with this.[5]

Small wonder then that Dr. Ancel Keys,[6] Director of the Laboratory of Physiological Hygiene of the University of Minnesota, takes Dr. Yudkin, Professor of Nutrition at the University of London, apart for stating "There is now quite strong evidence that dietary sugar, sucrose, is an important factor in the etiology of coronary heart disease."[7] Dr. Keys' careful analysis refutes Yudkin's assertion because (1) no precise knowledge is currently available as to the intake of sugar in various populations, (2) in areas studied there is no precise data on the prevalence of coronary heart disease either in present or past large groups, and (3) there is no evidence of reduction to an appreciable degree in heart disease where sugar in the diet is substantially reduced when still on iso-caloric diet.

Some areas with high sugar intake but perhaps little coronary disease have in the past been explained in part by the fact that the sugar consumed in such areas as South Africa, Cuba, Venezuela and Colombia is largely unrefined. Per capita intake of sugar is greater in Sweden than Finland, but there are more coronary deaths in Finland. The question of ethnic as well as individual susceptibility to coronary artery disease has not been clarified.

We agree with Dr. Keys that this is no time to publicize and advertise specific diet cures or preventatives for coronary artery disease. Apparently Dr. Keys and Dr. Page tend to agree with us that a low calorie diet with ingredients roughly as mentioned above is the optimum diet at the present time for many reasons not specifically related to coronary artery disease.

Lewis B. Flinn, M.D.

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* * *

THE DIRTY WORD IS STILL CHOLESTEROL

"Some people . . . have a foolish way of not minding, or pretending not to mind, what they eat. For my part, I mind my belly very studiously, and very carefully; for I look upon it, that he who does not mind his belly will hardly mind anything else." (Samuel Johnson, 1709-1784)

I don't know what the annual budget was for the R. Framingham Study when it began fourteen years ago, but recent withdrawal of federal support for this project eliminates the quarter of a million dollars a year required to keep it going.[1]

Dr. William B. Kannel, the Project Director, has recently published a resumé of some of the most important findings of the first fourteen years.[2] An astounding number of 2,282 men and 2,845 women from the little town of Framingham, Massachusetts, were originally studied and, equally astounding, 80 percent were still available for re-examination for the eighth time fourteen years after their initial examination. The conclusions are worth broadcasting to those of us who must make our clinical decisions with something less than a quarter of a million dollars a year support.

"An increased risk proportionate to serum cholesterol was found whether or not it was associated with elevated S-20-400 prebeta lipoprotein . . . In women over fifty, however, prebeta lipoprotein was superior to cholesterol in discriminating potential coronary heart disease. Risk of coronary heart disease in men can be estimated using any of the lipids evaluated; however, none proved more useful than an accurate total serum cholesterol."[3]

Many questions remain concerning the details of atherogenesis. Promising new analytic techniques developed by Fredrickson, Levy, and Lees are under active investigation. Such investigation may throw a new light on the entire subject. These uncertainties should not be allowed to obscure the firmly established, striking association between high blood lipid content in general and cholesterol in particular with coronary atherosclerotic disease. Evidence is beginning to accumulate which suggests that effective lowering of the serum cholesterol level may be followed by a corresponding reduction in coronary morbidity and mortality.[4]

Apparently, the simple determination of cholesterol has not been totally superceded by the more complex and more expensive determinations of lipid fractions by electrophoresis or ultracentrifugation.

The Framingham Study lends continued support to epidemiological studies done by Dr. Ancel Keys over ten years ago.[5] A major conclusion he reached was that differences in incidence of atherosclerosis and morbidity from coronary disease were closely related to the serum cholesterol concentration. The serum cholesterol and frequency of ischemic heart disease were proportional to the amount of fat in the diet. The common meat and dairy fats that dominate the American diet have powerful effects on the cholesterol level. Change from a high to low cholesterol diet has resulted in a decrease in the size of atherosclerotic plaques in experimental animals.[6] A significant confirmation of these findings on similar reversibility in primates has also been published.[7]

Reports of regression in atheromatous lesions in man by caloric and fat reduction have been documented.[8] With few exceptions, human populations consuming diets high in saturated fat and cholesterol have high mean serum cholesterol levels and a high incidence and mortality rates from premature coronary heart disease. The results of experimental studies of dietary changes in man have recently been reported at Los Angeles, Helsinki, and New York.[9-11] There was general accord that reduction in dietary fat and cholesterol reduced the instances of coronary attacks in all populations studied.

The work of Kinsell,[12] which has been repeatedly corroborated,[13-15] provides a practical dietary approach, the so-called Prudent Diet. In this diet, foods with predominantly saturated fats (butter, whole milk, cheese, ordinary margarines, and hydrogenated shortenings) and foods significantly containing high amounts of these fatty acids (beef, pork, lamb and eggs) can be and should be reduced or eliminated from our diet. The restrictions should start in early childhood.

The Senate has recently passed a bill allocating 1.6 billion dollars to fight the number two killer in the United States, cancer. The number one killer, cardiovascular disease, appears to have been lost in the shuffle. We hope that it will not take another fourteen years and another five or six million dollars to tell the American public more emphatically what best to do when we find an elevated cholesterol level . . . *down with cholesterol.*

Mark Cohen, M.D.

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CONGENITAL HIP DISLOCATION

Great sums of money are being expended to develop methods of detecting the many different and complex inborn errors of metabolism and other genetic disorders. There is an actual benefit to society with this approach, both financially and in human performance, particularly when the disorder has an accepted treatment. With some diseases it may be in order to prevent possible birth of newborns with a lethal disorder (Tay-Sachs disease). This approach may be considered too if the survival performance of the infant will be poor, as in Downs' disease, and if institutionalization, with its great emotional and financial burden on the family and society, should become necessary. These are extremes that must be approached very carefully.

We need to remind ourselves that there are also detectable and remedial problems, both behavioral and organic, that can be discovered, either in early childhood or early after birth, with no need of expensive or elaborate equipment, ie, learning disabilities and congenital hip dislocation.

A preliminary report of a collaborative study between the Department of Pediatrics of the Wilmington Medical Center and the Alfred I. du Pont Institute of the Nemours Foundation was presented recently as an exhibit.[1] Between March of 1968 and January, 1972, a total of 19,580 newborn infants were examined at the Wilmington General Division for the possible existence of congenital dislocated hips. Using the manipulative hip tests of Ortolani and Barlow[2] cited in reference by Barlow[3] abnormal hips were described as being dislocated, dislocatable, or subluxed. Of 27 dislocated hips, a frequency of 1.38 per 1,000 live births, there was the expected predominance of females (23) over males (4) with ten of the females presenting as a breech delivery. Of the 25 dislocatable hips, 20 were female with the overall dislocatable frequency of 1.28 per 1,000 live births. The largest number of suspect hips were those classified as subluxable, and these totaled 193 or 9.86 per 1,000 live births. The overall number of suspect hips was 235 or a suspect hip frequency of 12.79 per 1,000 live births.

One of the difficulties with a program to detect this type of disorder is that it will most assuredly over-diagnose a certain number of potential congenital dislocated hips. This possibility of false positives as well as the recognized failure of detection or false negatives is fully recognized by the participants in the program. Needless to say, thought is being given to methods of improving these particular aspects of the program. One interesting commentary is that physicians caring for the newborns in the Wilmington Medical Center have definitely become hip-minded although all data are not yet collected. We believe that programs of this type, wherever carried out, should decrease inpatient admissions for surgical correction of this type of anomaly. The participants in this study have concluded that examination of hips is a simple, rapid, and cheap test, early diagnosis and treatment are facilitated, and lastly, suspect hips are not at all uncommon.

HERMAN ROSENBLUM, M.D.
PAUL RAMSEY, M.D.
G. D. MACEWEN, M.D.

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DRUGS AND US

Drugs are making dramatic changes in our psychologic environment. Educational, research, treatment and law-enforcement programs all have a place in helping us to deal as rationally as possible with these changes. When this is done, however, we must remember that recreational drug use has always been a part of human society. It is not possible, and it may not be desirable to bring it to a stop. As physicians we must be ready to deal with the casualties of youthful pharmacologic experimentation, recognizing that by no means all users will be harmed. The ultimate place of marihuana in our culture will reflect social as well as medical pressures.

R. C. Pillard, M.D., NEJM, August, 1970.

Delaware Academy of Family Physicians

AAFP FELLOWSHIP CATEGORY AND CONTINUING EDUCATION

Fellowship Classification of Membership

The Congress of Delegates of the AAFP in Miami approved a new membership classification of "Fellow" of the American Academy of Family Physicians. This is not to be confused with diplomate status in the American Board of Family Practice. The only way a physician can become a diplomate of the ABFP is by passing the written examination of the Board.

All active and active exempt members of the AAFP are eligible to become fellows of the AAFP if they:

(1) completed 600 hours of approved postgraduate study (this means that those members who have been re-certified three times, or have been members of the Academy for 12 years, are automatically eligible), or

(2) have attained diplomate status in the American Board of Family Practice.

Either of the above provisions would make a member eligible to become a fellow.

The procedure by which the new Academy degree of Fellowship will be conferred was the primary focus of the Commission on Membership and Credentials at its meeting December 9 in Scottsdale, Arizona. Main points of the commission's recommendations and Board-approved procedure are:

The degree will be granted to eligible Academy members who submit an application to headquarters accompanied by a check for $50.00. The money will be used to defray expenses of processing applications and to make appropriate observance arrangements.

Special convocation ceremonies will be held annually during the AAFP Scientific Assembly. The first is scheduled this September in New York City. Denver and Los Angeles are the sites in 1973 and 1974, respectively.

Any member who is granted the degree within the next three years will be designated a Charter Fellow.

Those who participate in a convocation will receive a certificate of Fellowship. A member who cannot attend a convocation must state his reasons on the application, which will be reviewed individually by the Membership Commission.

Members who receive the degree will be designated as Fellows in subsequent issues of the *AAFP Membership Directory*.

Continuing Education Programs

All continuing education programs sponsored by the AAFP or its component chapters will now carry automatic accreditation by the American Medical Association's Council on Medical Education.

As a result, such programs will be acceptable for inclusion in the AMA's listing, "Continuing Education Courses for Physicians," and may be used to fulfill the continuing education requirement for the AMA Physician's Recognition Award. Beginning with the listing carried in the August, 1972 *Journal of the American Medical Association*, only courses offered by associations of institutions granted this accreditation will be included.

The new AMA policy of accrediting qualifying institutions rather than individual courses is part of a 10-year program to upgrade continuing education offerings to physicians. The Academy received approval following an on-site visit by the Council's Advisory Committee on Continuing Medical Education to the Academy's 1971 Scientific Assembly in Miami Beach.

It is important to note that state or local AAFP chapters must still obtain approval from the Academy's Education Commission for continuing education courses they plan to conduct. The commission's approval is necessary to assure that AAFP continuing education credit will be given to participating physicians and to insure AMA accreditation for the course in question.

President's Page

THE PHYSICIAN AND DRUG ABUSE

Physicians continually find themselves in the middle of social problems. These problems are often health related; however, they are not subject to cure by medical therapy alone. Drug abuse is one such complex problem that needs our help: narcotic offenses have increased in New Castle County by 329% from 1970 to 1971. We should fully make our contribution to seek a solution for there must be a broad base of physician involvement for an effective solution.

Delaware junior and senior high school students were recently surveyed regarding their drug experience by Robert A. Wilson of the University of Delaware, Division of Urban Affairs. The students stated that the source most desired by them for reliable drug information is a personal physician, a medical school professor, or a public health physician; these three people led the list of eleven the students would depend on most. Not all physicians have adequate knowledge to fill this advisor-therapist role; however, all of us through our basic knowledge, training, and attention to continuing education are the individuals in the community who should prepare ourselves to serve. We must be ready to meet this expectation.

The survey done by the University of Delaware included 32,000 students, or half of the total of such students in Delaware in grades 7-12 Of these, 8% are presently using drugs and another 8% have used drugs and quit; this represents 11,000 youths now in Delaware in these six grades with drug experience.

Drugs of all kinds are social problems, with alcohol remaining the greatest. There is no relevance to comparing alcohol with other drugs, since alcohol is not commonly used for the purpose of getting drunk while marijuana smoking is done to get "high." Marijuana is widely used, but experimentation and use of marijuana are a tragedy as young people are affected at a critical turning point of their lives when they should be maturing, facing reality, and assuming responsibilities rather than prolonging the fantasy world of adolescence. Marijuana like any chemical agent is potentially dangerous, but its acute dangers are quite limited and there is no physical addiction. Marijuana usage, however, generates the hazard of drug-oriented social groups which facilitate experimentation and use of other drugs including heroin.

There is a need for improved counselling services to assist those disturbed, a need for improved education at home and school regarding drugs and for modernization of laws to meet current social problems where there is no harm by the individual to society. Not to use any psychoactive drug is perhaps ideally desirable, but this is unrealistic. Medical approaches to drug abuse have the best probability of success; fear of arrest is not a deterrent to drug use. The present laws are alienating youth and have important consequences on the attitudes of youth relative to law enforcement. Full legalization of marijuana or other drugs as an alternative would result in a deterioration of our social structure.

Physicians have additional responsibilities every time they write a prescription to question and evaluate their own logic and justification for the use of sedatives, hypnotics, tranquilizers, narcotics, and especially the amphetamines. The prescription must not be used as an easy solution or a substitute for appropriate counselling and therapy without fulfilling our responsibilities or without having the patient face and assume his responsibilities.

H. M. Baganz

Letters to the Editor

To the Editor:

In a recent Evening Journal article concerning Delaware's state program for battling alcoholism it was stated that halfway houses throughout the state are needed. In the article no mention was made of Limen House, Inc., a privately funded halfway house at 903 Madison St., which opened two years ago and has been serving the community and state daily since that time. It should be known and used as a resource by everyone.

Limen House was originally the project of a group of concerned people at St. Andrew's Episcopal Church, but, from the beginning, it was meant to be, and is now, an ecumenical facility which accommodates up to 17 male alcoholics.

Limen House offers male alcoholics who have a sincere desire to recover the chance to begin again. It provides a temporary home for those who have no place to live. It helps the alcoholic help himself in an atmosphere of compassion and loving concern where he learns to be responsible for his own choices.

Knowing that alcoholics can be restored to productive, useful lives, the individual is encouraged to build on his own strengths toward independence and self reliance. The aim is truly restoration — a new life restored to the community.

Admission requirements are these: sobriety, medical examination prior to admission, eventual daytime employment while residing at Limen House, payment of $30 a week room and board in advance following employment, and acceptance of an ongoing program of therapy. Regular therapy meetings and an AA meeting are held during the week in the house, but the resident must also choose an outside program, usually AA or some form of counseling. Attendance at these meetings is mandatory.

With so much emphasis being placed these days on alcoholism, all physicians should be aware that there is a facility to which they may refer male alcoholic patients. Limen House is there to help you.

Elizabeth R. Bailey
Ruth T. Lipscomb
Co-chairmen, Public Relations Committee
Board of Dirctors of Limen House, Inc.

To the Editor:

Everyone wants a cause these days, and I guess none is better or more worthy than anti-air pollution. But before anything can be done about it, air pollution must be defined.

Webster is a good source for definitions, and he states to pollute is to make or render unclean, ie, to make dirty. Air pollution then is nothing more than dirty air and assumes that air was clean at one time. This, in itself, is a moot point. In any event, air until recently was considered tolerable.

From what is known of respiratory physiology, gas exchanges in the air sacs should be nonirritating. Clean air satisfies this requirement. Dirty air does not, thereby altering normal respiratory function and producing symptoms. This hardly needs elaboration since anyone involved with breathing can attest to it.

Once the problem is identified, a solution can be pursued. A pessimist might say there is no solution to pollution. Optimists and realists know better. Everyone can contribute to cleaning the air, and being informed is a good way to start. Get to know the problem through the Delaware Tuberculosis and Health Society. They stand ready with literature and news releases that can be invaluable. Once informed you will be better able to help solve the dirty air problem. You will be surprised what YOU can do.

Joseph E. DeLaurentis, M.D.

In Brief

Sussex County Medical Society

Joseph H. Burchenal, M.D., Vice President of the Sloan Kettering Institute for Cancer Research, will speak on *Recent Advances in the Treatment of Leukemia and Lymphomas* at the Sussex County Medical Society on Thursday, May 18, 1972 at the Rehoboth Country Club. The meeting is open to the public with dinner at 7 p.m. and the presentation at 8 p.m. Contact: David J. Reinhardt, III, M.D., 431 Savannah Road, Lewes, Del., 19958. (654-6695)

New Institute

The medical representative, the most widely used and certainly the most effective means of promoting pharmaceuticals, has for many years been desirous of attaining the professional status he deserves. The Certified Medical Representatives Institute, a testing institute organized in 1966, awards the CMR (Certified Medical Representative) designation to every medical representative who submits himself to a series of examinations to prove his competency to the entire medical community. The CMR designation following a man's name denotes a professional and testifies to competency in fields of medicine relating to the understanding of and proper usage of drugs. So far, the following companies are affiliated with the Institute: CIBA Pharmaceutical Company; Dorsey Laboratories; Knoll Pharmaceutical Company; Ortho Pharmaceutical Corporation; A. H. Robins Company, Inc.; Syntex Laboratories, Inc.; USV Pharmaceutical Corporation; Warner-Chilcott Laboratories and Warner-Chilcott Laboratories Co., Limited (Canada). The CMR designation is awarded at the completion of thirty credits of course work which is all accomplished in a home-study program completed in from two to five years. The curriculum includes the following: Anatomy, Physiology, Pharmacology, Medical Terminology, and Governmental Regulations. Elective courses include: Biochemistry, Microbiology, Psychology, Ethics, History of the Pharmaceutical Industry, Economics, Research Methods, and Pharmaceutical Marketing. Thus far, over 450 men have completed the program and are the recipients of the CMR designation. Examinations are prepared under the direction of Psychological Consultants and written by those who have authored the texts utilized in the program. The tests are given twice a year, January and June, at 52 different schools of medicine and pharmacy located in all parts of the United States.

Drug Education

The Drug Education and Training Center invites you to apply and participate in the Center's training workshops. They offer one-week programs dealing in drug education for individuals who may need to increase their clinical, planning, rehabilitative, and treatment skills in the area of drug dependency. For information write: Uri Rueveni, Ph.D., Director, Drug Education and Training Center, Henry Avenue and Abbottsford Road, Philadelphia, Pa., 19129. (215) 848-6000.

Speakers on "Ask the Doctor"

Speakers for May 1972 on the Tuesday radio program (11:05 a.m., WDEL) produced by the Medical Society of Delaware are: May 2, Alvin Weiner, M.D., *Eye Problems of the Diabetic;* May 9, Chaplain Lynwood Swanson, *Role and Function of the Hospital Chaplain;* May 16, Alfred

Bacon, M.D., *Hypertension;* May 23, Frank O'Brien, M.D., *Thoracic Surgery;* May 30, David Saunders, M.D., *Cosmetic Surgery.*

Drive to Serve

Week-end volunteers of the Delaware Chapter, American National Red Cross (college students and working men and women), have been participating with the US Department of Agriculture program, "Drive to Serve," since June 19, 1971. "Drive to Serve" now operates in five pilot areas, including San Bernardino, California; Wilmington, Delaware; Bowling Green, Kentucky; Fulton, Missouri; and McKinney, Texas. A month's supply of food products, each box weighing 45-50 pounds, is delivered to 44 or more medically infirm and blind recipients in the Wilmington area.

New Heart Service

A new service for physicians and hospitals that offers a new way to get proper medical assistance to heart patients promptly when emergencies arise is now available from EKG Services Corporation. Medical records that are miniaturized and carried in the patient's wallet are features of the service. Called Mini-Med, the small card contains a highly sharp reproduction of the patient's electrocardiogram and medical data pertinent to his disease, and the physician's name, address and phone number. Available for a fee of $5.00, the service also includes mounting of the patient's EKG for the physician on a new kind of 8½ x 11 file card. In addition, a computer letter is sent to the patient reminding him to see his doctor when a new EKG is due. For a free Mini-Med or additional information, contact EKG Services Corp., 11 Hill Street, Newark, N. J., 07102. (201) 623-9035.

American Host Program

The American Host Program is a non-profit program to enable teachers from Europe to gain a realistic and truthful understanding of American life. They are looking for families to act as host to a visiting teacher for one or two weeks anytime between July 14 and September 4, 1972. Duties as host are to provide room and board for the guest and an opportunity to meet other Americans and see some of the country. For more information or application forms contact Don and Joan Zook, Community Representatives, American Host Program, 214 S. Ford Avenue, Wilmington, Del., 19805, or call 656-4240.

Health and Welfare Budget

The official estimate of the 1973 Federal budget, which is expressed in millions of dollars, includes: National Defense, 78,310; Health & Welfare, 18,117; Interest on the National Debt, 21,161; Commerce & Transportation, 11,550; Veterans, 11,745; Education & Manpower Training, 11,281; Agriculture, 6,891; Community Development & Housing, 4,844; Natural Resources, 2,450; International, 3,844; Space, 3,191; Other, 8,590. You will note that Health & Welfare is the second largest item (except for interest on the national debt).

Delaware Cancer Conference

The Delaware Division, American Cancer Society will present *Quality of Survival Conference*, May 23, 1972 at the Delaware Academy of Medicine. Robert W. Frelick, M.D. will moderate the morning session and Robert L. Meckelnburg, M.D. will moderate the afternoon session. Among those participating in the program will be V. Terrell Davis, M.D., Leslie W. Whitney, M.D., Neil A. deLeeuw, M.D., Ruben A. Teixido, M.D., Anthony L. Cucuzzella, M.D., Carlo A. Cuccia, M.D., and Chaplain Lynwood L. Swanson. For more information, call (302) 654-6267.

CLINICAL NOTICES AND MEETINGS

3 Days of Cardiology

The Physical Examination of the Cardiovascular System - 1972 will be presented by the American Heart Association Council on Clinical Cardiology and the American College of Physicians at Georgetown University, Washington, D. C., May 17-19, 1972. For information write: Mrs. Gail Magzamen, American Heart Association, 44 East 23rd Street, New York, N. Y., 10010.

Instrumentation in Cardiac Care

A National Conference on Instrumentation and Hazards in Cardiac Care will be held May 22-23, 1972 at the Towsley Center for Continuing Medical Education in Ann Arbor, Michigan. The program is designed for physicians and all those involved in the safety and use of electrical or electronic equipment in the office or hospital. For information write: Harold Arnow, P. O. Box L-V 160, 16310 West Twelve Mile Road, Southfield, Mich., 48076.

Learning Disabilities Course

The New Jersey Chapter, American Academy of Pediatrics will present *The Neurological and Comprehensive Examination of Children with Learning Disabilities* at the Rutgers Medical School, Piscataway, N. J., May 19-21, 1972. For information contact: New Jersey Chapter, American Academy of Pediatrics, 98 Broadway, Hillsdale, N. J., 07642.

Study of Aging

Psychopharmacology and the Aging Patient, a conference to discuss the clinical use of psychoactive agents and the recognition and management of psychiatric syndrome of the elderly, will be held at the Center for the Study of Aging and Human Development, Duke University, Durham, N. C., May 29-31, 1972. Contact Mrs. Dorothy Heyman, Box 3003, Duke University Medical Center, Durham, N. C., 27710.

Cancer Chemotherapy

A National Conference on Cancer Chemotherapy sponsored by the American Cancer Society and the National Cancer Institute will be held June 1-3, 1972 at the Biltmore Hotel in New York City. For information contact: Sidney L. Arje, M.D. American Cancer Society, 219 East 42nd Street, New York, N.Y., 10017.

Lead Poisoning

The Delaware Chapter, American Academy of Pediatrics, is sponsoring an Eastern Regional Conference on *Childhood Lead Poisoning,* June 2-3, 1972 at the Delaware Academy of Medicine. The purposes of the Conference are to focus attention on the medical management and reduction of hazardous sources of lead intake and to stimulate a multi-disciplinary attack on this problem. Anyone interested may contact Mr. Marty Dale, American Academy of Pediatrics, 1801 Hinman Ave., Evanston, Ill., 60204.

Sexual Inadequacy

The Institute for Comprehensive Medicine is sponsoring two-day seminars on *Management of Sexual Inadequacy* in New York City, June 3-4, 1972; Philadelphia, June 6-7, 1972; and Arlington, Va., June 10-11 for professional and para-medical workers. This continuing medical activity is acceptable for 20 hours in Category 8 for the Physician's Recognition Award of the American Medical Association. Applications can be obtained by writing the Registrar: Institute for Comprehensive Medicine, 9735 Wilshire Blvd., Beverly Hills, Calif., 90212.

Alcoholism Institute

The Division of University Extension, University of Delaware will present a *Summer Institute on Alcoholism,* June 4-7, 1972 at the University of Delaware, Newark, Del. Write: Frederick D. Brown, Continuing Education Program Specialist, 79 Amstel Avenue, Newark, Del., 19711.

ACP Courses

The American College of Physicians will present *Progress in Internal Medicine with Emphasis on Humoral, Metabolic and Immunologic Mechanisms,* June 5-7, 1972 at the Iowa Memorial Union, University of Iowa, Iowa City, Iowa, and *Advances in Clinical Gastroenterology,* June 8-10, 1972 at Yale University School of Medicine, New Haven, Conn. For information write: Registrar, Postgraduate Courses, American College of Physicians, 4200 Pine Street, Philadelphia, Pa., 19104.

Headache Study

The 14th Annual Meeting of the American Association for the Study of Headache will be held June 17, 1972 at the St. Francis Hotel, San Francisco, California. Contact: Seymour Diamond, M.D., Executive Secretary & Co-Program Chairman, American Association for the Study of Headache, 5252 N. Western Ave., Chicago, Ill., 60625.

Cardiac Arrhythmias

Cardiac Arrhythmias, sponsored by the Council on Clinical Cardiology, the American Heart Association, the Tidewater Heart Association, and the Virginia Heart Association will be held June 8-11, 1972 at the Cavalier Hotel, Virginia Beach, Virginia. Contact: Dr. Charles L. Baird, Jr., Medical College of Virginia, Health Sciences Center, Box 894, Richmond, Va., 23219.

Rocky Mountain Cancer Conference

A New and Human Look at Cancer, sponsored by the American Cancer Society, Colorado Division and the Colorado Medical Society, will be held July 21-22, 1972 at the Brown Palace Hotel, Denver, Colorado. For information write: The Rocky Mountain Cancer Conference, 1764 Gilpin Street, Denver, Colorado, 80218.

Human Sexuality

A summer program in *Human Sexuality* will be held July 16-27, 1972 at Indiana University, Bloomington, Indiana. Write: Summer Program, Institute for Sex Research, Indiana University, Bloomington, Ind., 47401.

CLASSIFIED AD SECTION

Advertisements under the Classified Ad Section are charged at the rate of 30 words or less, set solid. One insertion $4.00. Call the Journal office, 658-7596 for further information or placement. All advertisements are payable in advance. The Editorial Board reserves the right to edit copy. Closing date for new copy is the first of the month for inclusion in the current issue.

Classified advertisements of a professional nature are free to members.

PSYCHIATRIST: Interested in group or institutional practice. Experienced primarily in child psychiatry. Board Certified in Pediatrics. Board Eligible in Psychiatry. Available July 1, 1972.

OB-GYN: Completed residency at Woman's College & Hospital, Phila. Training includes Surgical Oncology (Fellowship) at University of Colorado Hospital. Licensed in Delaware.

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INTERNIST: Board Eligible. Sub-specialty in Rheumatology. Graduate of University of Pennsylvania School of Medicine '68. Available August 1972.

INTERNIST: Board Certified in Internal Medicine. Board Eligible in Cardiology. Graduated from Temple University '65. Experience with US Public Health Service. Interested in group or institutional practice. Available July 1972.

SURGEON: Board Eligible in Surgery. FLEX license from New York. Any type of practice in general surgery would be of interest.

ANESTHESIOLOGIST: Board Eligible. Graduated from Jefferson Medical College, 1967. Licensed in Pennsylvania. Available July 20, 1972.

SURGEON: ECFMG. FLEX license from Vermont. Graduated from University of Santo Tomas, Republic of the Philippines, '57. Experience in Thoracic Surgery. Presently House Physician at St. Francis Hospital, Roslyn, New York.

PHYSICIAN'S ASST.: Delawarean intesested in position with primary physician. Graduating from 4-year course at Alderson-Broaddus College in May.

WANTED TO BUY: Second-hand examining tables, microscopes, centrifuges, EKG machines for new primary care office in Wilmington. Phone 655-4300.

WANTED — Opportunity exists for staff physicians at Emily P. Bissell Hospital and the Home and Hospital for the Chronically Ill at Smyrna. Eligibility for license to practice medicine in Delaware required. Salary competitive. Benefits include life, health insurance, pension. Please contact: Edward F. Gliwa, M.D., Acting Director, Division of Physical Health, Dover, Delaware 19901 (301) 678-4700.

The Physician and The Pharmacist

A monthly feature of the Delaware Pharmaceutical Society

L-DOPA

Side Effects — Dosage Increments

It has been suggested that the gradual introduction of treatment with L-dopa allows a higher dose to be tolerated than can be achieved if treatment is introduced rapidly. Results of this study show that the incidence of side effects of L-dopa is not affected by the rate of increasing the dose of the drug. Side effects which limited further increase in dose level were nausea (unresponsive to antiemetics), abnormal movements, symptomatic postural hypotension, confusion or hallucinations, and cardiac arrhythmia. It should be noted, however, that the side effects of L-dopa are dose-related. Therefore, the aim of the prescriber should be to build up to the maximum tolerated dose.” This is a compromise between benefit on the one hand and adverse effects on the other. The degree of severity at which a side effect becomes intolerable varies from one patient to another. A symptom which is but a mild irritation to one is an intolerable burden to another. Broadly, one-third of all patients show an impressive therapeutic response to L-dopa, and one-third show a smaller but worthwhile benefit. The remainder receive no benefits either because of complete lack of response or, more commonly, because severe side effects limit the dose to subtherapeutic levels.

Godwin-Austen RB, et al: Brit Med J 1:267, 1971; Leading Articles Ibid 244.

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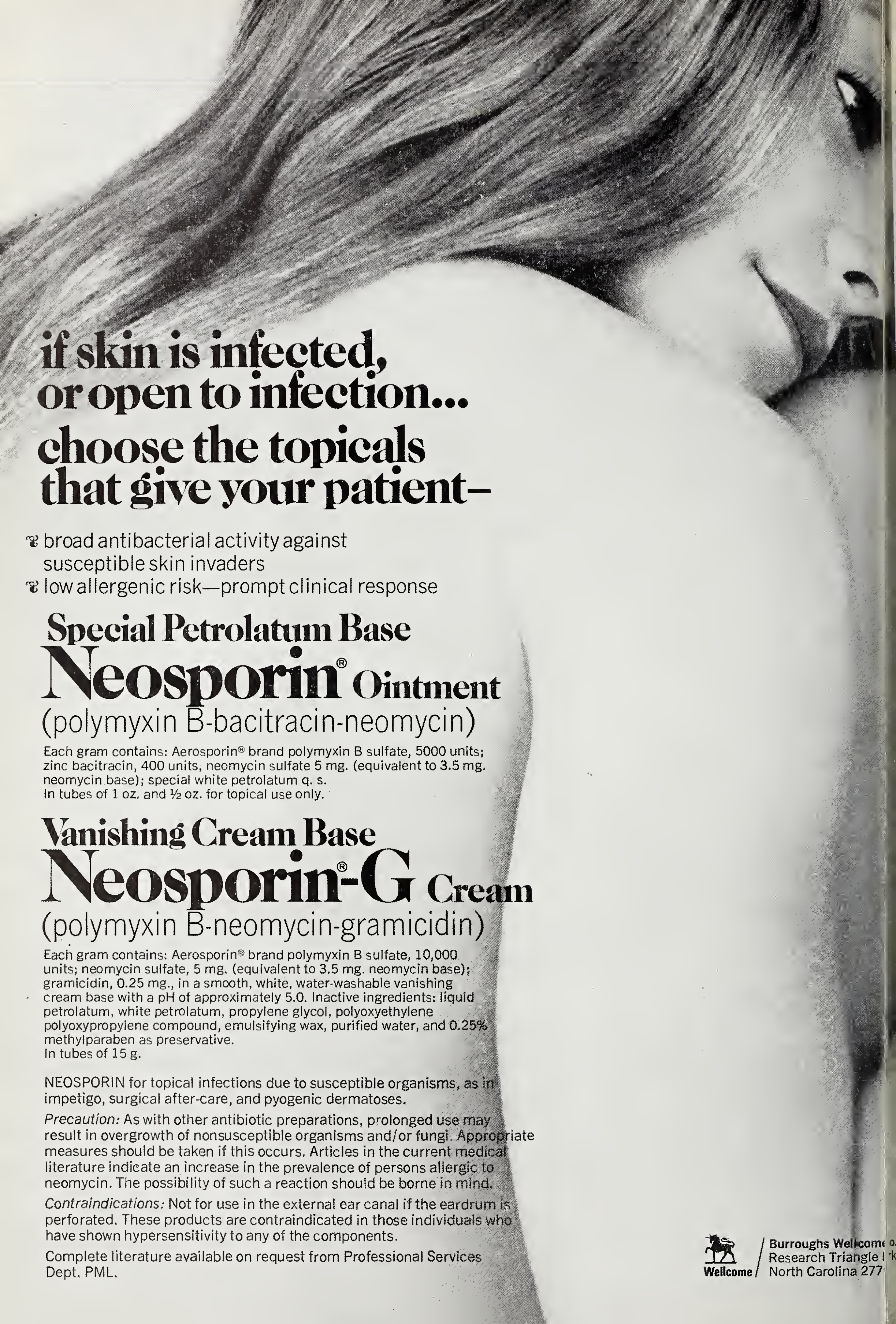

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choose the topicals that give your patient–

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- low allergenic risk—prompt clinical response

Special Petrolatum Base

Neosporin® Ointment

(polymyxin B-bacitracin-neomycin)

Each gram contains: Aerosporin® brand polymyxin B sulfate, 5000 units; zinc bacitracin, 400 units; neomycin sulfate 5 mg. (equivalent to 3.5 mg. neomycin base); special white petrolatum q. s.
In tubes of 1 oz. and ½ oz. for topical use only.

Vanishing Cream Base

Neosporin®-G Cream

(polymyxin B-neomycin-gramicidin)

Each gram contains: Aerosporin® brand polymyxin B sulfate, 10,000 units; neomycin sulfate, 5 mg. (equivalent to 3.5 mg. neomycin base); gramicidin, 0.25 mg., in a smooth, white, water-washable vanishing cream base with a pH of approximately 5.0. Inactive ingredients: liquid petrolatum, white petrolatum, propylene glycol, polyoxyethylene polyoxypropylene compound, emulsifying wax, purified water, and 0.25% methylparaben as preservative.
In tubes of 15 g.

NEOSPORIN for topical infections due to susceptible organisms, as in impetigo, surgical after-care, and pyogenic dermatoses.

Precaution: As with other antibiotic preparations, prolonged use may result in overgrowth of nonsusceptible organisms and/or fungi. Appropriate measures should be taken if this occurs. Articles in the current medical literature indicate an increase in the prevalence of persons allergic to neomycin. The possibility of such a reaction should be borne in mind.

Contraindications: Not for use in the external ear canal if the eardrum is perforated. These products are contraindicated in those individuals who have shown hypersensitivity to any of the components.

Complete literature available on request from Professional Services Dept. PML.

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Delaware Medical Journal

MAY, 1972
VOLUME 44
NUMBER 5

ANTIVIRAL THERAPY

> • **Physicians of the utmost fame**
> **Were called at once; but when they came**
> **They answered, as they took their fees,**
> **'There is no cure for this disease.'**
> *Hilaire Belloc: "Cautionary Tales, Henry King."*

Roger B. Thomas, Jr., M.D.

The past twenty years have seen major advances in the control of viral illnesses. From prophylaxis of such diseases as smallpox, polio, and, more recently, measles and mumps, much effort is currently being directed at treatment of established viral infections. These developments can be compared to the advent of the antibiotic era some thirty years ago. Application of these advances can best be illustrated by the following cases, from the Wilmington Medical Center.

Case One

A white woman, at age 22, was diagnosed as having myelomonocytic leukemia in January 1970. She was begun on treatment with steroids and immunosuppressive agents and responded well. On February 1, 1971, a skin rash appeared on her buttocks, followed three days later by fever. By February 5, 1971, the rash was disseminated, and generalized herpes zoster was diagnosed. Treatment with intravenous iododeoxyuridine, 5 gm/day, was begun the next day. Improvement was noted on February 8, 1971, and one week later the patient was afebrile and essentially free of signs of viral disease.

Case Two

A four-month-old white boy developed cough and coryza on January 31, 1969. A week later, he became febrile to 104°, and developed a vesicular eruption followed by seizures. The following day, his temperature was 106°, and an EEG showed bilateral temporal spikes. On February 9, 1969, a temporal lobe brain biopsy revealed herpes encephalitis, and the patient was transferred to a Washington, D. C. hospital. There he received intravenous (poly I:C), 0.1 mg/kg/day for eleven days. The day after treatment was begun, he became afebrile and free of seizures for the first time. He survived this acute illness but was left with residual organic brain syndrome.

The development of cell culture techniques by Enders in 1949 was the major breakthrough that initiated the subsequent advances in virology. By 1952, virus growth *in vitro* had been achieved, and the stage was set for the assault on viral diseases. Two challenges were evident: the rare, severe virus infections in otherwise healthy patients (eg,

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This paper was originally presented at the Tuesday Morning Medical Conference of the Wilmington Medical Center, Delaware Academy of Medicine, March 30, 1971.

case two above); and disseminated virus infections in patients with depressed resistance (eg, case one above), such as premature infants, and patients on immunosuppressive drugs, with malignancies, or with cellular immune defects (eg, the Wiskott-Aldrich syndrome).

Cellular Metabolism and Virus Reduplication

Since viral chemotherapy has been dependent upon our understanding of how the virus acts, a brief review of this action is in order. Virus particles attach to the cell surface and subsequently penetrate the cell wall. There follows an "eclipse phase" during which the viral messenger material (RNA or DNA) is exposed to the host cell's macromolecular synthesizing systems (transfer- and messenger-RNA and ribosomes). Utilizing this latter machinery, the viral messenger material and protein coat are preferentially reduplicated, at the expense of normally synthesized cell components. Following recombination of viral messenger material and protein coat, the cell is destroyed and the new hordes of infective virus particles are released.

Host Factors Including Interferon

Normal host responses to viral infection are varied and include the antiviral effects of fever, relative acidosis, and antibody production. The significance of the latter in the acute host response is usually minimal but under certain circumstances is more important. For example, it has been shown that patients subject to recurrent herpes simplex infections do not produce the IgA antibody normally elicited by a herpes infection.[1]

The presence of other antiviral mechanisms has been suspected for many decades. Erasmus Darwin, in 1803, wrote:

"The infection of the measles, if it be taken in sufficient time before inoculation (smallpox vaccination) so the eruption may commence before the variolous fever come on, stops the progress of the smallpox in the inoculated wound and delays it until the measles fever has finished its career."[2]

It was not until 1935, however, that this phenomenon of viral "interference" was rediscovered and, eighteen years later, ascribed to a host cell polypeptide which was called "interferon." The mechanism of interferon's action has been postulated to involve blockade of interaction between viral messenger-RNA and host cell ribosomes, which prevents the synthesis of viral components without affecting host cell metabolism.

Interferon production is stimulated by a wide variety of substances, including viruses, bacteria, protozoa, PPLO, plant phytohemagglutinin, endotoxin, mold extracts, and synthetic substances such as certain anionic copolymers. This has led to extensive basic research efforts to develop interferon inducers for clinical use. This will be discussed below.

Modes of Therapy

In addition to traditional but ever-critical methods of supportive care (primarily respiratory management) for viral illnesses, the most familiar specific therapies involve antibodies and vaccines. These are only effective on extra-cellular virus particles, however, and are probably of no usefulness against viruses spreading without substantial extracellular exposure, as in herpes encephalitis or varicella-zoster in nerve roots. The factor of time required for effective action limits their utility in acute illnesses. Antibody-resistant viruses, or viruses with multiple strains or "antigenic drift," escape the specificity of antibody-based therapy.

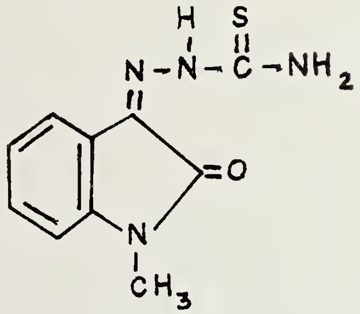
The development of antiviral agents has been particularly difficult compared to that of agents against other microorganisms, primarily because of the close interaction between host cell and virus particle; preserving antiviral specificity without causing host cell damage has been a major challenge. There are currently available several chemotherapeutic antiviral agents, discussed below, as well as many experimental antiviral compounds whose mode of action is totally unknown.

In 1946, researchers found benzaldehyde thiosemicarbazone to be effective against established vaccinia infection in mice. By 1953, a derivative, methisazone, was being used in humans, and was proven effective for smallpox prophylaxis or vaccinia infections.

The action of this agent results in the production of a defective viral protein coat, with resultant cellular release of non-infective virus particles. (Figure 1)

FIGURE 1

Methisazone

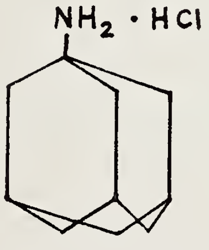


N-Methyl isatin -thiosemicarbazone

Amantadine, a chemical whose structure is unique, is available for prophylaxis against influenza A_2. It acts by preventing viral penetration into susceptible cells. Since this may be continually occurring during the acute phase of a viral illness, the potential for therapeutic benefit exists; such has been shown to be the case with this agent.[3] This drug was synthesized and shown to have antiviral properties at laboratories of the E. I. duPont de Nemours Company, in Wilmington, Delaware. (Figure 2)

FIGURE 2

Amantadine



1-Adamatanamine HCl

The development of nucleic acid analogs as cancer chemotherapeutic agents has been based on the rationale of incorporation of the synthetic analogs into tumor cell genetic machinery. One of these agents, the thymidine analog "IDU," 2′-deoxy-5′-iodouridine, was noted to be associated with an inability for smallpox vaccination "takes" in cancer patients receiving it. It was subsequently shown to be incorporated into the DNA of DNA viruses, and thereby to affect the assembly of otherwise normal precursors into complete virus particles. An inadequate protein coat results, as well as increased virus mutation secondary to improper base-pairing with the analog in the DNA helix. IDU was first successfully employed against herpes keratitis. In 1966, a major breakthrough occurred when it was first used successfully in the treatment of a case of established herpes encephalitis,[4] and subsequent series have confirmed this.[5] (Figure 3)

Since the mid-1960's, when interferon came into the limelight, it has been considered as a promising therapeutic agent. Purified isolates are available for clinical trials, but the supply is limited and the cost very high. The presence of tissue barriers, such as the blood-brain barrier, poses some problems to the delivery of this agent to the site of the infection. Several investigators, impressed with its broad spectrum (DNA and RNA viruses), have expressed the opinion that large scale production of this substance is technically feasible from human cell cultures; several European centers, including one in Moscow, are actively investigating this possibility.[6]

There are several theoretical advantages of achieving increased interferon production by the host at the site of the virus infection, and efforts in this country have been largely in this direction. Many natural substances, as mentioned earlier, have been found to stimulate interferon production. A significant clue has been provided by medicine's best friend, the *Penicillium* mold. An extract from *P. stoloniferum* was discovered to be an interferon inducer; upon purification, it was found to be an anionic polysaccharide. This discovery prompted research into synthetic interferon inducers, and many have subsequently

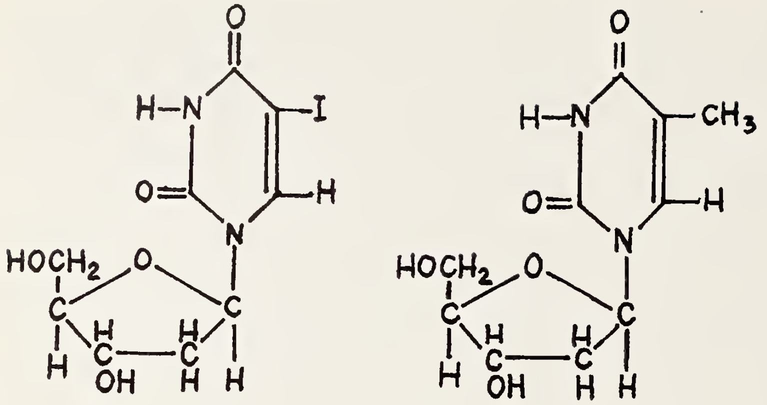


FIGURE 3

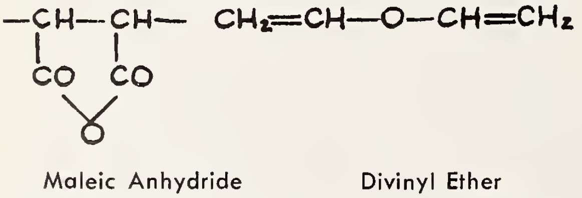
Iododeoxyuridine and Thymidine

been developed. One of the first, a copolymer of maleic acid and divinyl ether, was synthesized and characterized by the Hercules Company at Wilmington, Delaware. (Figure 4)

Experiments with interferon-inducing *Penicillium* mold extracts suggested a relationship of interferon induction to double-stranded polyribonucleotides. The result of this work was the synthesis of such agents, the most promising of which currently appears to be a polymer of inosine and cytosine, called "(poly I:C)." This substance, given as an intravenous infusion, stimulates the production of interferon, primarily from reticuloendothelial cells. It has a therapeutic index of over 200*, and has been used in humans suffering from life-threatening viral infections, with apparent success.[7]

FIGURE 4

Components of pyran copolymer, an interferon-inducing synthetic anionic random copolymer of 17,000 m.w.



$$\begin{array}{cc} -\mathrm{CH}- & \mathrm{CH}- \\ | & | \\ \mathrm{CO} & \mathrm{CO} \\ \multicolumn{2}{c}{\diagdown\;\diagup} \\ \multicolumn{2}{c}{\mathrm{O}} \end{array} \qquad \mathrm{CH_2{=}CH{-}O{-}CH{=}CH_2}$$

Current Challenges

There remain many problems regarding viral illnesses and their treatment. With regard to diagnosis, most viral illnesses are short-lived and are characterized by a nonspecific prodrome; clinical diagnosis is possible only after target organ cells have been infected and/or damaged. Antibody titers are slow, and not necessarily specific, although recent work with IgM antibody tests in diagnosis of rubella, herpes, and cytomegalic disease is promising.[8] Virus isolation is too slow and specialized for therapeutic utility, although slide smears for giant cells or inclusion bodies often support the presence of a viral infection. New techniques under study include immunofluorescence, rapid electron microscopy, and radioactive tagging. It is hoped that efforts along these lines will enable rapid specific diagnoses to be made at a time when therapy can still be effective.

Treatment also poses continuing challenges. Virus resistance to previously effective agents has begun to appear. Many of the available antiviral substances have significant toxicity, and several of them have the as yet unsubstantiated potential for carcinogenesis or teratogenesis. The effect of the continued presence of degraded polymers in reticuloendothelial cells has not been assessed. Continued effort directed at these issues is certainly indicated, and is in progress.

The importance of antiviral therapy ranges from better control of "the common cold" to recognition and management of slow virus infections, such as subacute sclerosing (Dawson's) panencephalitis, and perhaps other chronic (? slow viral) diseases such as cancer or even the aging process itself.

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*"therapeutic index" = maximal dose tolerated/minimal dose effective.

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GREMLINS AGAIN

Two sentences on the first page of Dr. Nanette W. Wenger's article, *Rehabilitation of the Coronary Patient,* were transposed in the April issue. The proper text is: "It is no wonder that not only patients, their families, and their physicians, but also employers, insurance companies, and the economists fear the consequences of myocardial infarction.

"For the past several years, we have tried to turn this fear and concern into constructive rehabilitation programming."

PRIMARY ALDOSTERONISM

Conn's Syndrome

A Rational Approach to Diagnosis and Treatment

Herbert Heym, M.D.

Since 1955 when Conn first described the syndrome of primary aldosteronism due to adrenal adenoma and its successful therapy by surgical removal,[1] much has been written and many methods have been proposed for its detection. Although renin determinations and aldosterone assays have become generally available, they remain expensive and can not yet be considered appropriate tests for screening purposes.

The rational approach to the diagnosis of primary aldosteronism begins with a strong clinical suspicion, confirmed by laboratory examinations which start with the simpler and proceed to the more involved studies. Since there is no single pathognomonic test for the pre-operative diagnosis and good radiologic visualization of the tumor is not always possible, only direct visualization at surgery can give an absolute diagnosis.

To illustrate the logical steps in the diagnostic evaluation, a classical case of primary aldosteronism (Conn's Syndrome) will be presented and discussed.

Case Report

The patient, a 30-year-old Caucasian woman was first seen in the outpatient department of the Wilmington Medical Center approximately three months prior to admission complaining of weakness of her legs which frequently caused her to collapse. She also had tingling of her arms and legs and had occasionally noted inability to move her right thumb and index finger. She had urinary frequency and nocturia since the birth of her only child ten years previously.

Physical examination was normal except for moderate hypertension (BP 170/120) without evidence of retinopathy. Hypertensive evaluation consisted of an intravenous pyelogram, chest and skull x-rays, urinalysis and VMA assay. All of these were within normal limits. Her EKG was read as atrial bigemini and diphasic P-waves in leads V_1 and V_2. Initially hypertensive treatment was begun with reserpine and a thiazide, unfortunately, before electrolyte studies were obtained.

Because her symptoms continued and even increased in severity, neurologic studies including EEG and EMG were done but found to be normal. Because of the bizarre nature of her symptoms, a diagnosis of conversion hysteria was once entertained, and she was begun on a therapeutic trial of a phenothiazine without benefit and maybe even exacerbation of her symptoms.

Because of the episodes of syncope she was brought to the emergency room at which time she also complained of heart palpitations. Except for some hyporeactive reflexes and grossly irregular heart rate, the physical examina-

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This paper was originally presented at the Tuesday Morning Medical Conference, Wilmington Medical Center, at the Academy of Medicine, November 23, 1971.

tion was otherwise not remarkable, and, significantly, there was no ankle edema. Her pulse rate was 80 and irregular, and BP was 140/70. An EKG revealed bizarre ventricular complexes throughout the entire tracing. She was not in acute distress at the time, but because of the arrhythmia she was admitted for observation and evaluation. The cause of her symptoms was inexplicable until the results of her serum electrolytes were reported as potassium 1.4, sodium 141, chlorides 87 and CO_2 42 mEq liter, demonstrating a severe hypokalemic alkalosis. Replacement potassium was begun, and dramatic clinical improvement was noted. Urinalysis showed trace albumin, with specific gravity of 1.003 and alkaline pH. Serum magnesium was normal at 2.0 mg/100 ml. Frequent random blood glucose determinations were also normal.

In summary we had a young, recently diagnosed hypertensive patient presenting with hypokalemia, the symptoms of which included muscle weakness, paresthesias, and even occasional paralysis. She also had renal manifestations of polyuria and nocturia, and cardiac irritability with ventricular arrhythmias. (Table 1)

TABLE 1

CLINICAL FEATURES OF PRIMARY ALDOSTERONISM*

Symptoms		Signs	
Muscle weakness	(73%)	Hypertension	(100%)
Polyuria, nocturia	(72 %)	Retinopathy	(50%)
Headache	(51%)	Cardiomegaly	(41%
Polydypsia	(46%)	Tetany	
Paresthesias		Paralysis	
Visual disturbances		*No* edema	
Fatigue			

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*Conn et al: *Amer J Surg* 107:159, 1964.

The causes of hypokalemia in a hypertensive patient must be determined. (Table 2)

TABLE 2

CAUSES OF HYPOKALEMIA AND HYPERTENSION

I. *Primary Aldosteronism* (adrenal adenoma/bilateral hyperplasia)

II. *Secondary Aldosteronism*

  A. Edematous states (cardiac, renal, hepatic)
  B. Renal vascular/parenchymal disease
  C. Malignant hypertension

III. *Drugs*

  Thiazide diuretics
  Steroids
  Excessive licorice ingestion

IV. *Gastrointestinal losses*

  Vomiting
  Chronic diarrhea and excess laxative use
  Enteric fistulas

The most common cause of hypokalemia is that induced by thiazide diuretics, with a usually accepted prevalence of around 10%. Since we do not have a serum potassium level prior to institution of thiazide therapy, we can not absolutely rule out this etiology except for the fact that her symptoms of hypokalemia clearly preceded initiation of treatment.

Thiazides induce hypokalemia by increasing the sodium load to the distal tubule, thereby enhancing the sodium-potassium exchange mechanism. Aldosterone may then be released secondarily to this negative sodium balance. Thiazides have not been greatly helpful in the diagnosis of autonomous aldosteronism,[2] and attempts to use thiazides as a provocative test have been equivocal.[3] Although thiazides may exacerbate potassium loss, patients with primary aldosteronism and hypertension have hypokalemia prior to thiazide administration, and evaluation of patients with thiazide-induced hypokalemia has only occasionally been rewarding in making this diagnosis.

Another cause of hypokalemia is increased gastrointestinal loss by vomiting, chronic diarrhea, or fistula. The use of potassium-losing drugs such as adrenal steroids must be excluded. An interesting syndrome of hypokalemic myopathy involving the excessive ingestion of licorice (greater than 30 grams per day) has been reported.[4] Licorice contains up to 15% of the steroid glycyrrhyzic acid, which acts as a mineralocorticoid, and therefore, like excess aldosterone, can produce hypokalemia. Historically, the use of licorice for the treatment of peptic ulcers and as a flavoring occasionally has produced mild forms of this syndrome, but severe cases have also been reported. TB patients receiving PAS flavored with licorice have been found to develop slight hypokalemia. Excess licorice ingestion could have presented as this patient did.

Excess Aldosterone Effect

If the above causes of hypokalemia can be dismissed by history, the possibility of excess aldosterone effect becomes more likely. To indirectly demonstrate aldosterone effect, measurements of sodium and potassium electrolytes in the urine and saliva[5] are helpful and rapid. The finding of potassium wasting was demonstrated in our patient by urine potassium levels greater than 30 mEq/24 hours despite hypokalemia and a low salivary sodium/potassium rate of 1/5 (normal > ½).

Conn was also the first to report normokalemic primary aldosteronism,[6,7] but its significance has not been fully understood. It may be that he is now making the diagnosis earlier, before full manifestation of the syndrome. Presently there is no screening test capable of easily detecting this possibility, but because of the relative infrequency of this finding, searching for the diagnosis will probably be unrewarding. A low serum potassium along with a negative potassium balance still remains the best screening available for determining hyperaldosteronism.

The spironolactone suppression test[8] will also screen for excess aldosterone effect. Spironolactone in high doses (400 mg/day for two to three weeks) competitively blocks the effect of aldosterone on the distal tubule, resulting in a 50% decrease in urinary potassium. Our patient showed this much suppression after only one week of spironolactone. This test also offers some prognostic value in predicting response to therapy. If the patient's blood pressure is significantly lowered after five days of spironolactone, the probability is high that removal of excess aldosterone will restore the patient's blood pressure to normal. Blood pressure dropped to 160/105 in our patient, her lowest recorded level, although not to normotensive levels. Typically the hypertension of secondary aldosteronism is not corrected this way although the potassium balance may be restored.

Adrenal Functions Studies

Once the adrenals are implicated, adrenal function studies must be obtained to evaluate total adrenal function. Our patient's secretion of 17-hydroxycorticoids and 17-ketosteroids was essentially within normal limits.

In our patient, electrolyte studies had indirectly proven the existence of excess aldosterone production by demonstrating aldosterone effect on the kidney. It then became necessary to differentiate autonomous aldosterone production (primary) from induced production (secondary) by studying the reninangiotensin mechanism and specifically the plasma renin level. Plasma for plasma renin must be obtained under very controlled circumstances,[9] including upright posture and a sodium-restricted diet, both of which will stimulate renin production in a normal person. In the past, renin levels were somewhat unreliable because of technical difficulties, but with improved techniques the renin levels are now felt to be fairly accurate and reliable if the specimen is obtained under the proper conditions previously mentioned. Autonomous aldosterone production characteristically produces a suppressed renin level, which is a differential factor between primary and secondary aldosteronism, and by itself has correlated better than the aldosterone level in predicting adrenal pathology and the resulting response to therapy.[10]

Since it has been shown that up to 25% of patients with essential hypertension also show suppressed renin levels,[11] it becomes imperative that the direct measurement of aldosterone on a normal sodium diet be made before diagnosis is made.[12] The finding of suppressed renin levels in the face of elevated aldosterone is the hallmark of the diagnosis of primary aldosteronism. The renin and aldosterone levels in our patient were compatible with the diagnosis and were repeated twice for confirmation. Her renin levels were at all times below normal (65 mg/100 ml) both on sodium-depleted and sodium-loaded diets. Initially, urine aldosterone levels were elevated to 89 μg/24 hours and later, on a high sodium diet, were 50 μg/24 hours. (Table 3)

These findings usually should be sufficient to decide upon surgical intervention for definitive therapy. Adrenal venography has been helpful, localizing an adrenal adenoma in over 50% of Conn's cases.[13] With the advent of radio-immunoassay measurments of nanogram concentrations of aldosterone in blood, the unilateral adrenal vein aldosterone level has proven helpful in localizing the source of aldosterone, much like renal vein renin determinations in renal hypertension. Results have been encouraging in a few cases where the tumor was too small to palpate, but upon removal of the suspected adrenal gland, a cure resulted.[14] In our patient adrenal venography was attempted but was technically unsuccessful. Renal arteriography was normal, and the adrenal glands were not visualized. Recently several cases of primary aldosteronism which have been cured, at least temporarily, after venography have been reported, apparently because of hemorrhage or infarction of the adrenal tumor.[15] Although this beneficial result was unintentional, it does emphasize the possibility of adrenal hemorrhage as a complication to the procedure.

Removing an Adrenal Andenoma

It remains for surgical exploration to localize and remove an adrenal adenoma. Unfortunately, reports of bilateral adrenal hyperplasia, idiopathic hyperaldosteronism, or pseudoprimary aldosteronism have become in-

TABLE 3

SUMMARY OF PATIENT'S LABORATORY STUDIES

Plasma Cortisol	8 a.m. – 37.8 mcg% 4 p.m. – 24.0 mcg%	(Normal: 8 – 25 mcg%)	
17 *hydroxy steroids*	8.2 mg/24 hrs.	(Normal: 2.0 – 7.0 mg/24 hrs.)	
17 *keto steroids*	3.4 mg/24hrs.	(Normal: 7 – 12 mg/24 hrs.)	
Salivary electrolytes			
Sodium 4 mEq/l Potassium 20 mEq/l	Sodium/Potassium ratio = 1/5 Normal: ½)		
Urinary electrolytes	Na depleted	9 gm Na diet	Post 5 days Spironolactone
Sodium	133 mEq/24 hrs.	166 mEq/24 hrs.	
Potassium	65 mEq/24hrs.	71 mEq/24 hrs.	70 mEq/24 hrs.
Plasma renin* (normal: 73 – 490 ng)	65 ng	65 ng	45 mEq/24 hrs.
Urinary aldosterone** (normal: 5 – 19 μg)	89 μg/24 hrs.	50.5 μg/24 hrs.	

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*Determined by Bio-Science Labs (bio-assay)

**Determined by New England Nuclear (double isotope dilution technique) creasingly more common, and in some reports up to 50% of these cases presented as typical primary aldosteronism.[16] These patients do not respond well to surgery, even bilateral adrenalectomy, and their best treatment is in doubt at the present. So far there is no definite way to differentiate these situations preoperatively, unless an adenoma is seen on venogram. To aid in making this complex distinction between hyperplasia and adenoma, computer-assisted analyses of the various diagnostic parameters have been tried with some success in prediction of the adrenal pathology.[17] Submaxillary duct salivary gland electrolytes have shown more potassium wasting with adenoma compared to bilateral hyperplasia,[18] but this may actually be related to the absolute level of aldosterone produced. In general, patients with adenomas do have more severe hypokalemia.

Attempts at suppression with dexamethasone have likewise not been helpful since a significant number of adenomas have been found to suppress.[19] We tried dexamethasone suppression in our patient and obtained remission of urinary potassium wastage, stabilization of the serum potassium, and lowering of the blood pressure, but other than giving a good prognostic indication for surgery, it did not help in the differential diagnosis of hyperplasia versus adenoma.

Sodium Loading Test

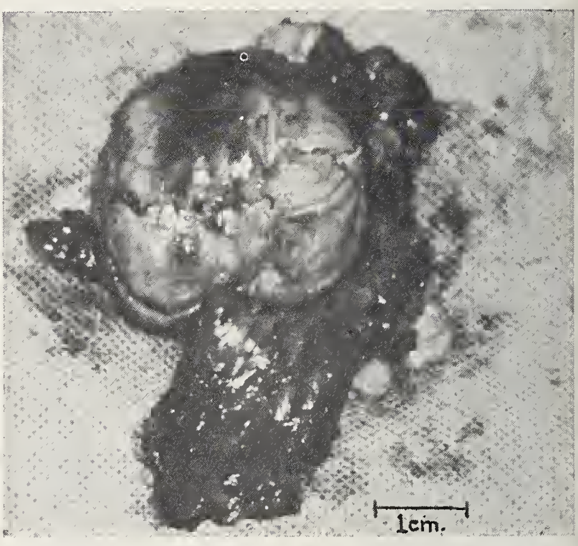
The sodium loading test has been used in the screening for primary aldosteronism by intensifying the potassium losing effect seen in hyperaldosteronism. It will not distinguish autonomous from secondary aldosteronism production, and therefore, the DOCA (desoxycorticosterone acetate) suppression test[20] has been advocated as a convenient screening test for primary aldosteronism, especially when other tests are equivocal. The rationale is to suppress with DOCA any nonautonomous aldosterone secretion by inhibiting renin production. A continued high level of aldosterone after DOCA suggests adrenal adenoma.

At the time of surgery, our patient's right adrenal was initially explored because she had had right-sided back pain. Statistically there is a slightly increased incidence of left-sided tumor, but technically the right side is easier to explore and adenomas are usually unilateral. Since the left-sided adrenal venogram is technically easier to perform, Conn recommends exploration of the right side first only if the venogram on the left is negative for tumor. Others have stated it always is necessary to explore both sides since small tumors can be missed grossly. The usual plan calls for unilateral adrenalectomy for a single adenoma, bilateral exploration if nothing is found on one side, and, probably, for lack of a better answer, unilateral adrenalectomy for bilateeral hyperplasia after both sides are explored.[21] Exploration of the right side in our patient showed a normal adrenal gland, but the left adrenal contained a 3 cm adenoma at the upper pole. (Figure 1) The tumor was a typical canary-yellow color, very striking compared to the other normal tissue, and quite characteristic of aldosteronoma. Postoperative course was uneventful and required no steroid support.

Prognosis

The prognosis for our patient appears excellent. Her blood pressure only one month after operation was normal, and she no longer had problems in maintaining her potassium balance nor any neurologic symptoms.

FIGURE 1



Surgical specimen. 3 cm encapsulated adrenal adenoma in upper pole of left adrenal gland.

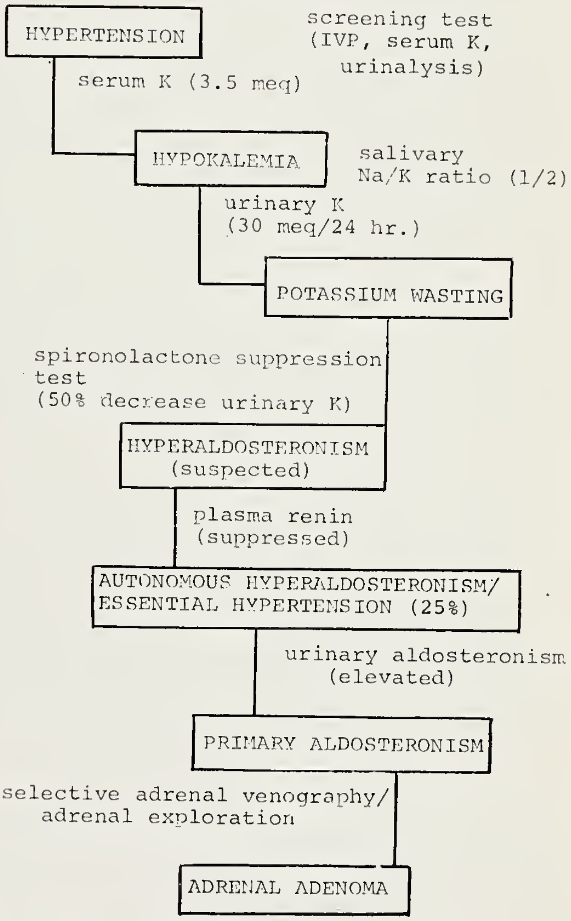
Although we talk of this syndrome as a surgically curable form of hypertension, the response is not always so immediate. The potassium wasting is usually quickly resolved, but the blood pressure may not return to acceptable levels for up to one year postoperatively. The reason for this is not known; one may readily postulate a certain irreversibility to prolonged elevated blood pressure through a different mechanism from aldosterone. Most studies to date have only eight to ten years' follow-up experience after successful removal of an adenal adenoma. Attempts to suppress the effect of excess aldosterone with long-term treatment with spironolactone have not been promising, mainly because the progestational side effects of spironolactone include gynecomastia, decreased libido and impotence, and menstrual irregularities. Overall the results with surgery are good, and it remains the preferred mode of therapy at this time.

Summary

The importance of primary aldosteronism is not only that it is a form of curable hypertension, but also that it may hold the key to understanding the pathogenesis of essential hypertension. Based on studies showing increased frequency of adenomas, elevated aldosterone, and suppressed renin levels, Conn has proposed that up to 20% of patients diagnosed as having "essential" hypertension may actually have primary aldosteronism. So far this theory has not been widely accepted,[22] and the usually accepted figure for the incidence of primary aldosteronism is placed at no greater than 5% of hypertensives.[9] It is not the purpose of this paper to pursue this debate except to mention the possible implications.

I have attempted to present along with a typical case, a rational approach in flow-diagram fashion (Figure 2) for the diagnostic evaluation of primary aldosteronism.

FIGURE 2


HYPERTENSION
screening test (IVP, serum K, urinalysis)
serum K (3.5 meq)
HYPOKALEMIA
salivary Na/K ratio (1/2)
urinary K (30 meq/24 hr.)
POTASSIUM WASTING
spironolactone suppression test (50% decrease urinary K)
HYPERALDOSTERONISM (suspected)
plasma renin (suppressed)
AUTONOMOUS HYPERALDOSTERONISM/ ESSENTIAL HYPERTENSION (25%)
urinary aldosteronism (elevated)
PRIMARY ALDOSTERONISM
selective adrenal venography/ adrenal exploration
ADRENAL ADENOMA

Flow diagram for evaluation of primary aldosteronism.

1. Initially, a strong clinical suspicion is aroused by symptoms of hypokalemia in a newly hypertensive patient.

2. Screening studies will then document persistent hypokalemia.

3. If the etiology can not be determined, demonstration of body wasting of potassium in the saliva and urine is helpful. This indirectly confirms excess aldosterone effect and may be further proven by response to spironolactone.

4. When the above screening studies warrant, more definitive studies including plasma renin and urinary aldosterone determinations should be done.

5. If the renin is suppressed after sodium deprivation and the aldosterone elevated after sodium loading, the probability of adrenal pathology is high.

6. Proper therapeutic approach begins with attempts to localize the site by selective adrenal venography and continues to subse-

quent adrenal exploration and adrenalectomy, if indicated.

This scheme does not attempt to include all the possible tests available, but rather the minimum by which a successful diagnosis can be made. Modification will certainly be necessary depending upon individual patient's presentation and as improvements are made in techniques, but the basic rationale to the problem should remain in an orderly, logical sequence.

Recently two articles describing a new technique for localizing and differentiating adrenal adenoma using adrenal photoscanning have appeared.[23,24]

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ALCOHOL: SOME SOBER FACTS

Alcohol is a factor in half (almost 30,000) of all highway fatalities occurring each year. Three-quarters of 9,000,000 problem drinkers in the U.S. are men. Ninety-five per cent are employable and family-centered. Approximately 100,000 new cases of alcohol abuse develop each year. Alcoholics comprise 22 percent of male first admissions to hospitals. By occupation, 45 percent of alcohol abusers are managed or professional; 25 per cent, white collar; 30 per cent, nonclerical workers. Directly or indirectly, alcohol-related problems adversely affect the lives of 36,000,000 persons — or one in every six men, women, and children. Half of almost 5,000,000 arrests are related to alcohol abuse. Driving while intoxicated accounts for 300,000 arrests. Life expectancy of an alcoholic is estimated to be 10-12 years less than that of the general public. Alcohol abuse causes a $15 billion drain on the economy each year — $10 billion attributable to lost work time. Half of all homicides and one-fourth of all suicides are connected with alcohol abuse.

Compiled by the National Institute on Alcohol Abuse and Alcoholism of NIMH, Rockville, Md.

NITROFURANTOIN IN URINARY TRACT INFECTIONS

Part II

Clinical Experience with the Macro-Crystal Form of Nitrofurantoin (Macrodantin®)*

William J. Holloway, M.D.

Nitrofurantoin is an effective agent in the treatment of acute and chronic urinary tract infection in adults and children though the frequency of gastrointestinal side effects limits the use of this preparation. This fact prompted the development of the macro-crystal formulation of nitrofurantoin, which is absorbed more slowly from the gastrointestinal tract, resulting in lower blood levels with less effect on the central nervous system through which the gastrointestinal side effects are mediated.[30,31,33] The lower blood level does not appear to affect the eventual urine concentration of nitrofurantoin though urinary excretion is delayed.

Clinical experience with this new formulation of nitrofurantoin indicates that it is as effective as the older form of nitrofurantoin and suggests that there is a lower incidence of side effects with this newer preparation.[31,32]

This study was instituted to evaluate the clinical efficacy of macronized nitrofurantoin (Macrodantin®) in the treatment of acute and chronic urinary tract infection. No attempt was made to compare the efficacy of this newer formulation with the older micronized nitrofurantoin, nor was there any attempt to compare the incidence of side effects with the two available preparations.

Material and Methods

Patients with acute and chronic urinary tract infections were selected from the outpatient population of the Brandywine Medical Center and the Pyelonephritis Clinic of the Wilmington Medical Center. All of the patients with acute urinary tract infection were seen at the Brandywine Medical Center as were three of the 32 patients with chronic urinary tract infection. The remaining 29 patients with chronic urinary tract infection were followed in the Pyelonephritis Clinic of the Outpatient Department at the Wilmington Medical Center.

Among the 39 patients with acute urinary tract infection, there were 32 female and seven male patients with a mean age of 44 years. Thirty-four of these patients had acute bacterial cystitis while five patients had acute bacterial pyelonephritis. The infecting organism was *E. Coli* in 31 patients, *Proteus sp.* in six patients, and a member of the *Klebsiella-Enterobacter* group in two patients. The dosage of nitrofurantoin was 50 mg four times

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*Nitrofurantoin — Eaton

daily in 34 patients and 100 mg four times daily in five patients, the duration of therapy ranging from seven to fourteen days. Initial urine cultures were obtained by urethral catheterization in 15 instances and by midstream voiding technique in 17 instances (seven male, ten female). In nine of the ten female patients the positive voided midstream urine culture was confirmed by a repeat culture before initiation of antibacterial therapy. Complete blood count, urinalysis, sedimentation rate, and chemistry-12-profile was carried out before and after therapy in a majority of patients. Repeat urine cultures were obtained at the cessation of therapy, two weeks following therapy, and six weeks following therapy in all of the patients in this study.

There were 32 patients (21 female and 11 male) in the chronic urinary tract infection group with a mean age of 54 years. Twenty-three of these patients were categorized as having chronic pyelonephritis while five had recurrent pyelonephritis and four has chronic cystitis. In 16 of the 32 patients there was obvious urinary tract obstruction, and 20 of the 32 patients had significant underlying disease, the most common being renal calculi (six), hydronephrosis (four), and diabetes mellitus (three).

The infecting organism in the patients with chronic infection were as follows: *E. Coli* in 12 patients, *Klebsiella-Enterobacter* in 11 patients, *Proteus sp.* in four patients, and *Pseudomonas sp.* in two patients. The duration of nitrofurantoin therapy in this group ranged from one month to 24 months with the mean being six months. In 26 of the 32 patients the dosage was 50 mg four times daily; in three patients it was 100 mg four times daily, while in three others 100 mg was given on a twice-daily basis. Cultures in the 11 males were obtained by midstream voided technique and in the 21 females by suprapubic aspiration or urethral catheterization technique. Cultures were obtained prior to therapy, one week after institution of therapy, and at monthly intervals for the duration of nitrofurantoin therapy. Complete blood count, sedimentation rate, urinalysis and chemistry-12-profile were obtained before, at appropriate intervals during, and following therapy with nitrofurantoin.

Results

Acute urinary tract infection: There were two failures and 37 successful results in the 39 patients with acute urinary tract infection treated with macronized nitrofurantoin. All of the urinary pathogens in this group of patients were susceptible to nitrofurantoin by *in vitro* disc agar-diffusion susceptibility testing utilizing a 300 mcg nitrofurantoin disc. Thirty-six of the 37 patients with urinary tract infection were clinically cured while 35 patients experienced bacteriologic clearing. One patient failed to show clinical improvement, and a strain of *E. coli* which was sensitive to nitrofurantoin, before and after therapy, persisted in the urine. Subsequent therapy with ampicillin resulted in a clinical and bacteriologic cure. In another patient there was clinical improvement but bacteriologic failure with a nitrofurantoin-sensitive strain of *Proteus mirabilis.* This patient also subsequently responded to a course of ampicillin.

Chronic urinary tract infection: Sixteen of the 32 patients with chronic complicated urinary tract infection failed to respond to therapy with the macronized formulation of nitrofurantoin. Twelve patients had a successful response, while in four patients the outcome was rated a qualified success. Patients categorized as having a failure showed neither bacteriologic nor clinical improvement while receiving nitrofurantoin therapy. Three of these patients were infected with a urinary pathogen determined to be resistant to nitrofurantoin prior to institution of therapy *(Pseudomonas sp. 2, E. Coli 1).* In nine additional patients who failed to respond to therapy, an original nitrofurantoin-susceptible organism was replaced by a pathogen found to be nitrofurantoin-resistant by *in vitro* testing. Patients categorized as having a qualified success were maintained on nitrofurantoin therapy with improvement in symptoms and renal function and an abacteriuric state for prolonged periods of time, ie, greater than two months before bacteriologic relapse occurred. Clinical relapse did not occur in any of these four patients. Patients categorized as having a successful outcome have remained abacteriuric and free of symptoms for at least two months following cessation of nitrofurantoin therapy, or remain clinically and bacteriologically controlled while still on nitrofurantoin therapy for periods of time ranging from 12 to 24 months.

Laboratory Data

In 65 of the 71 patients included in this study complete blood count, urinalysis, and SMA-12 chemistry profile were obtained before and after therapy and at frequent intervals during prolonged therapy. In six patients significant eosinophilia was noted (associated with angioneurotic edema in one instance and drug eruption in another) while a rise in serum transaminase occurred in four patients. There was no correlation between this rise in serum enzyme levels and gastrointestinal side effects. In four of 32 patients with chronic urinary tract infection there was laboratory evidence of improvement in renal function while in no instance was there any evidence of worsening of renal function as measured by laboratory parameters. The sedimentation rate as measured in 65 of 71 patients in this study proved to be an unreliable parameter in determining the presence or absence of infection. The sedimentation rate was elevated before therapy in only ten of 34 patients with acute infection, and a decrease followed cure in only two instances. In thirty-one of 32 patients with chronic infection in whom the sedimentation rate was measured, there was no regular pattern of increase or decrease related to response to therapy.

Side Effects

Eleven of the 39 patients with acute urinary tract infection developed significant side effects (28.2%), and in four instances these were severe enough to require cessation of therapy (10.2%). Eight patients experienced gastrointestinal symptoms, manifested by nausea or vomiting; five of these patients were receiving 50 mg of nitrofurantoin four times daily while three patients were taking 100 mg of nitrofurantoin four times a day.

Two of the patients with acute urinary tract infection who received nitrofurantoin developed a flu-like syndrome manifested by chills, fever, and headache. In both instances this syndrome followed by several days the clearing of urinary tract symptoms and was associated with a negative urine culture. One patient in this group developed a drug eruption.

In the 32 patients with chronic urinary tract infection notable side effects developed in ten (31.2%), requiring cessation of therapy in five patients (15.6%). Again eight of the patients had gastrointestinal symptoms manifested by nausea or vomiting, and all of these patients were receiving 50 mg four times daily. One patient, a 15-year-old girl, developed angioneurotic edema after her fourth dose of macronized nitrofurantoin. This patient had taken micronized nitrofurantoin on a number of occasions without significant side effect. A patient on long-term therapy with nitrofurantoin developed severe vertigo which required cessation of therapy.

Summary

The macrocrystalline form of nitrofurantoin (Macrodantin®) was administered to 71 patients with acute and chronic urinary tract infection. Thirty-seven of the 39 patients with acute infection showed a good response to this preparation while only 16 of 32 patients with chronic infection experienced a successful outcome. This response to therapy compares favorably with other antibacterial agents used in our Pyelonephritis Clinic.

However, side effects were prevalent with 29.6% of the patients experiencing a significant reaction; in 12.6% of the patients cessation of therapy was necessary. There were no instances of serious toxicity.

Nitrofurantoin is a valuable adjunct in the management of patients with chronic urinary tract infection. Clinical results with the macrocrystalline form appeared promising in this study, but no attempt was made to compare this new formulation with the older microcrystalline preparation.

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This is part two of Dr. Holloway's paper: Nitrofurantoin in Urinary Tract Infections. Part one, Nitrofurantoin Revisted, appeared in the April issue.

This study was supported by a grant from Eaton Laboratories.

Highlights

Biannual Medical Staff Research Meeting,
Wilmington Medical Center, February 8, 1972

HANDS IN MOTION

Joseph A. Arminio, M.D., *Senior, Department of Surgery, Wilmington Medical Center.*

The exhibit is intended to show the hand motions that all of us take for granted in performing certain acts on a daily basis. With a kronoscope attachment to a camera, motion can be stopped in serial sequences during an activity. This helps to demonstrate the activity which is quicker than the eye, and it can be photographed for further study at one's leisure. The exhibit is intended to stimulate one's thinking and to graphically show the fine movements that comprise activity with the hand; as stated, many of us pay little attention to these activities until the normal pattern that has been formed unconsciously by repetitive action is interrupted.

MANAGEMENT OF THE MULTIPLE SCLEROSIS PATIENT

George J. Boines, M.D., *Honorary Member, Department of Medicine, (Specialty-Multiple Sclerosis), Wilmington Medical Center.*

Multiple Sclerosis patients are definitely treatable with good results when the management is directed toward the pathology in the spinal cord.

Proper rehabilitation management prevents and corrects the muscle joint disabilities in any stage of the disease.

The 650 Multiple Sclerosis patients treated from 24 states and Canada represent a nonselective group ranging in age from 19 to 66 when treatment began with a duration of the disease from 1 to 39 years. There were 421 females and 229 males treated; 44% made excellent improvement; 36% made good improvement; 15% made fair improvement; and 5% made poor improvement.

CURRENT ACTIVITIES of the Infectious Disease Research Laboratory

Janet L. Clark, Ph.D., *Research Coordinator;* and William J. Holloway, M.D., *Director, Infectious Disease Research Laboratory, Wilmington Medical Center.*

Comparative Methods of Antibiotic Assays

N. Larson, B.S.

Several methods for microbiological antibiotic assay of clinical specimens are being compared. Three of these methods are the cylinder-plate method, the disc-plate method, and the agar-well diffusion method.

Demonstration of Mycoplasma

B. Dieckman, B.S.

Mycoplasma species associated with human disease are *Mycoplasma pneumoniae* and T strains. The Infectious Disease Research Laboratory is determining the incidence of these infections in local population groups. One method is by culture on special medium. *M. pneumoniae* is confirmed by the hemadsorption test. T strains of mycoplasma are confirmed by urease test. *M. pneumoniae* infection can also be detected by an antibody rise by the complement fixation test.

Rapid Dip Methods of Urine Cultures as Compared to Quantitative Cultures on Plates

R. Rocco, B.S.

There is a need for a rapid, simple test for significant bacteriuria to screen high-risk, asymptomic patients. The QuantiKit, the Uriglox test, and the filter paper dip techniques are being evaluated. The results with these techniques are compared with results by routine quantitative culture techniques.

CARDIOVASCULAR EVALUATION — Controlled Exercise EKG Test

Mark G. Cohen, M.D., *Senior, Department of Medicine (Cardiology); and* Richard Lennihan, Jr., M.D., *Associate, Department of Surgery, Wilmington Medical Center.*

An exercise EKG test using electrocardiographic monitoring during and post exercise is a valuable tool in the differential diagnosis of chest pain, in the diagnosis of latent coronary disease, in evaluation of cardiac function post-myocardial infarction in evaluation of the effects of drug therapy, and in evaluation of pre- and postoperative cardiac surgical evaluation. The test is contraindicated in patients who have had recent infarction, congestive failure, myocarditis, ventricular aneurysm, severe mitral or aortic stenosis, heart block, and extracardiac problems such as electrolyte disturbances and severe anemia.

The exhibit demonstrates the type of ST segment abnormalities and arrythmias seen with a positive exercise test. It stresses the evaluation of post-exercise physical examination with detection of exercise hypotension, gallop rhythms or typical murmurs of papillary muscle dysfunction. The majority of patients with angina have a positive exercise test. Patients with a negative test usually have no significant coronary disease. Patients with significant disease by arteriography usually have an 85% chance of having a positive treadmill test. The test must be done under closely supervised conditions.

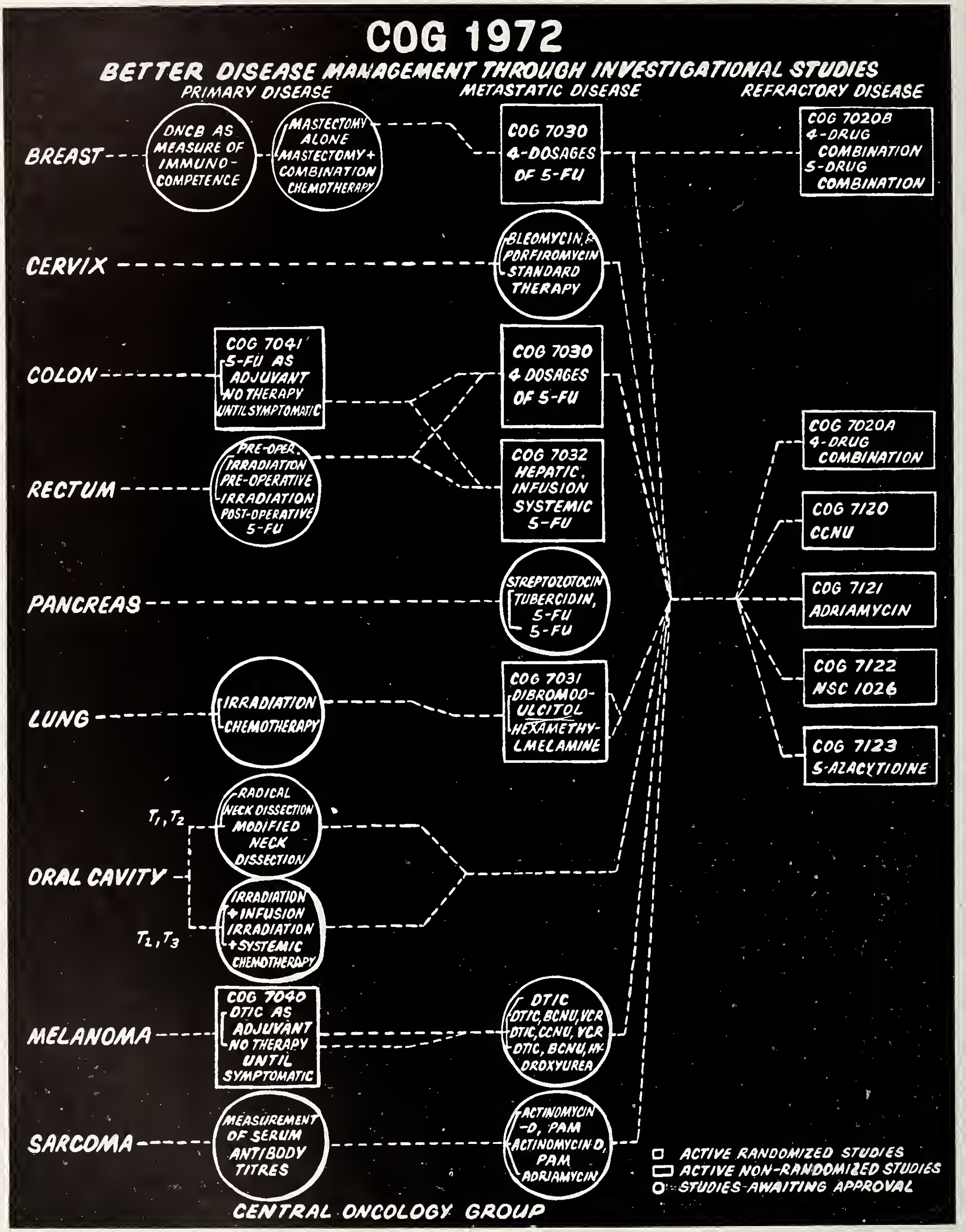
DELAWARE INSTITUTE OF MEDICAL EDUCATION AND RESEARCH

A three-paneled display including photographs and text outlining and describing the Delaware Institute of Medical Education and Research and the activities conducted by the University of Delaware, The Wilmington Medical Center and the Jefferson Medical College of Thomas Jefferson University under DIMER.

CLINICAL TRIALS-NEW DRUGS-Cancer Patients — Wilmington Medical Center

Robert W. Frelick, M.D., *Head, Section on Oncology, Wilmington Medical Center.*

A number of protocols now being used in the Wilmington Medical Center were presented both by summary on 12 posters and in detail with attached protocols. The majority were developed by the "Central Oncology Group" — a group of 22 institutions to which the Wilmington Medical Center gained access last fall. The C.O.G. is part of the National Cancer Institute's program to develop cooperative clinical studies for new drugs and drug combinations in cancer for which no other therapy is available. The accompanying poster on page 138 sumarizes the range of activity in the C.O.G.



COG 1972

BETTER DISEASE MANAGEMENT THROUGH INVESTIGATIONAL STUDIES

PRIMARY DISEASE

METASTATIC DISEASE

REFRACTORY DISEASE

BREAST

DNCB AS MEASURE OF IMMUNO-COMPETENCE

MASTECTOMY ALONE
MASTECTOMY + COMBINATION CHEMOTHERAPY

COG 7030 4-DOSAGES OF 5-FU

COG 7020B
4-DRUG COMBINATION
5-DRUG COMBINATION

CERVIX

BLEOMYCIN, PORFIROMYCIN
STANDARD THERAPY

COLON

COG 7041
5-FU AS ADJUVANT
NO THERAPY UNTIL SYMPTOMATIC

COG 7030 4 DOSAGES OF 5-FU

RECTUM

PRE-OPER. IRRADIATION
PRE-OPERATIVE IRRADIATION POST-OPERATIVE 5-FU

COG 7032
HEPATIC INFUSION
SYSTEMIC 5-FU

COG 7020A 4-DRUG COMBINATION

COG 7120 CCNU

COG 7121 ADRIAMYCIN

COG 7122 NSC 1026

COG 7123 5-AZACYTIDINE

PANCREAS

STREPTOZOTOCIN TUBERCIDIN, 5-FU
5-FU

LUNG

IRRADIATION
CHEMOTHERAPY

COG 7031
DIBROMODULCITOL
HEXAMETHYLMELAMINE

ORAL CAVITY

T_1, T_2

RADICAL NECK DISSECTION
MODIFIED NECK DISSECTION

T_2, T_3

IRRADIATION + INFUSION
IRRADIATION + SYSTEMIC CHEMOTHERAPY

MELANOMA

COG 7040
DTIC AS ADJUVANT
NO THERAPY UNTIL SYMPTOMATIC

DTIC
DTIC, BCNU, VCR
DTIC, CCNU, VCR
DTIC, BCNU, HYDROXYUREA

SARCOMA

MEASUREMENT OF SERUM ANTIBODY TITRES

ACTINOMYCIN-D, PAM
ACTINOMYCIN D, PAM ADRIAMYCIN

☐ ACTIVE RANDOMIZED STUDIES
▭ ACTIVE NON-RANDOMIZED STUDIES
○ STUDIES AWAITING APPROVAL

CENTRAL ONCOLOGY GROUP

ONE OF THE TWELVE POSTERS IN THE ROBERT W. FRELICK, M.D., C.O.G. EXHIBIT

HALOTHANE CONTAMINATION OF OPERATING ROOMS

R. Douglas Sanders, M.D., *Senior, Dept. of Anesthesiology, Wilmington Medical Center.* Jeffrey W. Blomstedt, *Preceptee in Anesthesia, Wilmington Medical Center.*

Contamination of air with halothane in operating rooms, rubber parts of apparatus, and CO_2 absorbers was shown by photographs, table, and graphs. All samples were analyzed with flame detectors chromatograph.

Air of operating rooms was found to contain .001% to .003% halothane during its use in anesthesia.

Air within removed rubber parts of apparatus contained .014% after use. On standing for 20 hours, it increased demonstrating absorption and gradual release by the rubber.

Air in recently used CO_2 absorbers contained 0.3% to 0.82% halothane. Decontamiation by flushing with 4L/Min flow removed 96%in 10 minutes. When half an atmosphere vacuum and flow were used, 98% was removed in ten minutes. In one instance residual volume of halothane removed from the apparatus was calculated to be 59cc.

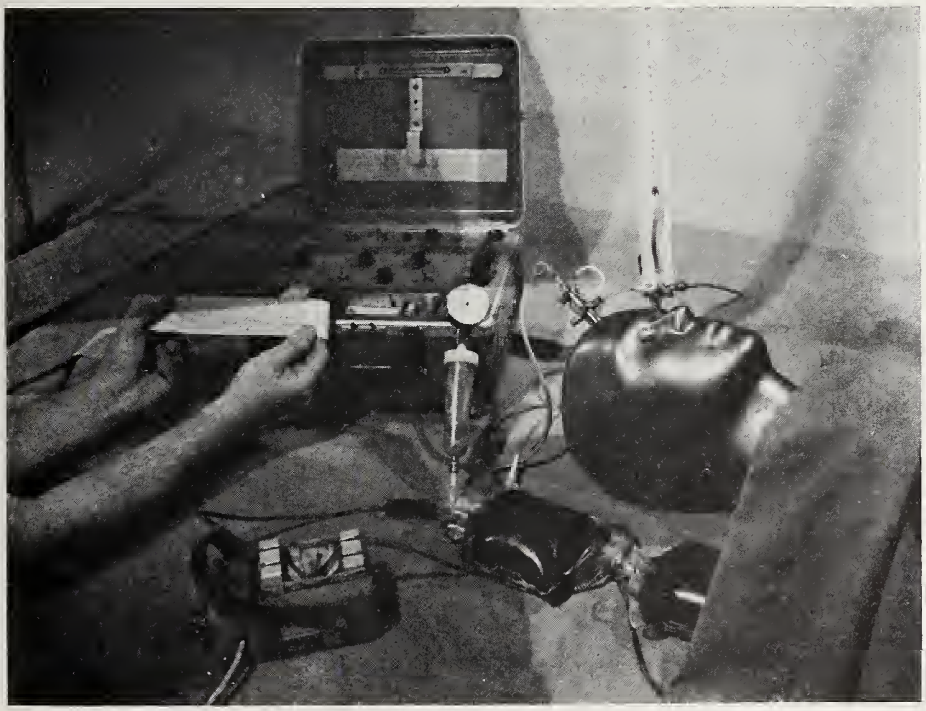
TRANSDURAL MONITORING SYSTEM

Pierre L. LeRoy, M.D., *Associate in Neurological Surgery, Wilmington Medical Center.*

Transdural monitoring of intracranial pressure events now appears to be feasible on a more reliable basis, recording over an intact dura.

A new system has been developed to measure transdural pressure in a single, intermittent, or continuous method. It is based on the principle of pneumatic force balance and graphic recording.

Until relatively recent years, central nervous system pressure determinations have been by intradural penetration methods of direct measurement of the subarachnoid (C.S.F.P.) or ventricular fluid pressures (V.F.P.) by needle puncture using the conventional Ayer manometer or its equivalent. No basic changes in this simple principle have developed since its inception in the late 1890's in Europe for nearly 80 years. Today new technology is permitting this to change, which may help predict intracranial events before they mani-



TRANSDURAL

MONITORING

SYSTEM

fest as irreversible clinical neurologic signs in vascular, neoplastic and traumatic central nervous system disorders.

The development of this system was carried out in conjunction with the New Research and Development Laboratories, Inc. and the E. I. duPont de Nemours & Company.

LATERAL HYPOTHALAMIC SELF-STIMULATION

Thomas R. Scott, Jr., Ph.D., *Assistant Professor of Psychology, University of Delaware.*

In 1954 Olds and Milner discovered that electrical stimulation of the lateral sectors of the hypothalamus was reinforcing to the recipient. The lateral hypothalamus has long been known as the "feeding center" of the brain. Its stimulation causes stimulus-bound feeding, and some subjects combine self-stimulation with a consummatory response by chewing on the reinforcing bar and shaking it up and down simultaneously. Also, increased hunger levels result in higher rates of lateral hypothalmic self-stimulation, suggesting that the reinforcing value of the stimulation is enhanced. Conversely, satiation depresses the self-stimulation rate. But if the lateral hypothalamus signals hunger, then why is its stimulation reinforcing? Hunger is not a particularly rewarding experience. A possible mechanism for reinforcement was discovered when Ralph Norgren found that a moderate percentage of lateral hypothalamic cells were activated by the appetitive tastes (sweet and salt). Does lateral hypothalamic stimulation remind the subject of good tasting morsels of food? This is certainly not the whole answer, but remains a significant contribution.

ANTIBIOTIC SELECTION in the Seriously Ill Patient

William J. Holloway, M.D., *Director, Infectious Disease Research Laboratory and Senior, Department of Medicine;* Russell J. Labowitz, M.D., *Kenner Army Hospital, Fort Lee, Virginia;* and William A. Taylor, M.D., *Chief Resident in Medicine, Wilmington Medical Center.*

Nosocomial infections due to multiple antibiotic resistant micro-organisms present a serious problem in the care of the hospitalized patients. Immunologic deficiency due to the underlying disease or to toxic therapeutic agents and medical or surgical interruption of the body's protective covering play an important role in producing serious infection. Most of these patients have had a long course of illness and have received many of the commonly used antibiotics.

The past few years have seen a change in the type of organism causing these infections. The gram-negative enteric bacilli have replaced the streptococci and *Staphylococcus aureus* as the most common cause of hospital-acquired infection. New antibiotics that offer some promise in the treatment of these resistant infections are welcome additions to the clinician's armamentarium.

Proper management of sepsis requires:

1. Physician awareness of the current nosocomial pathogen pattern through compre hensive bacteriologic surveillance programs.
2. Determination of specific causative pathogens.
3. Selection of appropriate antibiotic therapy based upon evaluating patient's past history and present status.

LAPAROSCOPY — For Diagnosis and Surgery

John M. Levinson, M.D., *Associate, Department of Obstetrics and Gynecology, Wilmington Medical Center.*

The exhibit presented the advantages, indications, and contraindications for intra-abdominal diagnosis and surgery by means of the fiberoptic laparoscope. A series of kodachrome slides taken through the instrument demonstrated the performance of bilateral partial salpingectomy for sterilization, which is routinely accomplished with a total hospital stay of six hours. In addition, emphasis was placed on upper abdominal diagnosis and visual biopsy of the liver. The obvious advantages of this outpatient technique were stressed by presenting a consecutive series of 166 personal cases of laparoscopy.

CONGENITALLY DISLOCATED OR SUBLUXED HIP IN THE CHILD

Comparisons of Reconstructive Procedures

G. Dean MacEwen, M.D., *Medical Director and Surgeon-In-Chief;* and Thomas D. Utterback, M.D., *Resident, Alfred I. duPont Institute.*

A series of plastic models depicting the Salter, Pemberton, shelf and Chiari pelvic osteotomies was presented along with preoperative and follow-up roentgenograms of both good and poor results for each procedure. Guidelines for the timing and selection of patients for each procedure were illustrated. It is believed that there are definite indications for each of the procedures reviewed and that any one procedure cannot offer the best possible result for every patient.

DOES THE URINALYSIS DETECT BACTERIURIA?

Janet Clark, Ph.D., *Research Coordinator, Infectious Disease Research Laboratory;* B. Z. Paulshock, M.D., *Senior, Department of Medicine* and Rosemary Rocco, B.S., M.T. (A.S.C.P.).

In screening patients for urinary tract infection it is important to use culture rather than urinalysis. Sixteen percent of diabetic and twelve percent of non-diabetic patients in our study had greater than 10^5 pathogenic organisms per ml. Only half of the patients with positive cultures had proteinuria or pyuria, while 25% of those with a negative culture had proteinuria and 8% had pyuria. Our conclusion is that the only reliable means of diagnosing a urinary tract infection is by culture.

THEORETICAL APPROACH TO REM CONTROL

Italo V. Monteleone, M.D., *Assistant, Department of Neurology, Wilmington Medical Center.*

One of the approaches to better understanding of the REM (Rapid Eye Movement) phenomena has been based on evaluating how it is affected by hypothesized neuro-transmitters and hormones in the hope that, quoting Snyder, "If the REM'S could be adequately characterized both in the neurochemical and perhaps peripheral metabolic system, one may have an important model to use in beginning to relate chemical variables to objective and subjective states in man," and allow us to control the performance of human beings under stressful, sleepless situations as well as the control of pathologically abnormal states of mind.

CONGENITAL DISLOCATION OF HIPS IN NEWBORN INFANTS

The Value of Screening

Paul L. Ramsey, M.D., *Associate Surgeon, Alfred I. duPont Institute;* and Herman Rosenblum, M.D., *Director, Department of Pediatrics, Wilmington Medical Center.*

The Wilmington Medical Center and the Alfred I. duPont Institute have participated in a cooperative examination of 19,580 newborns with congenital dislocation of the hip. The examination was purely clinical and utilized the Barlow Provocative Test in which the hip is felt to dislocate and the Ortolani Reduction Test in which the hip is felt to reduce. This study detected 27 hip dislocations or 1.4/1000 live births, 25 dislocatable hips or 1.3/1000 live births, and 193 subluxable hips or 9.9/1000 live births. Suspect hips requiring either active treatment or follow-up examination totaled 245 or 12.6/1000 live births.

BI-CENTENNIAL COMMITTEE — Revolutionary War 1775-1783

Allen C. Wooden, M.D., *Assistant, Department of Medicine (Internal), Wilmington Medical Center.*

The Exhibit consisted of two parts, one announced and the second part given in conjunction with the theme of medical research in general.

The first part of the presentation consisted of photographs, books, and other artifacts illustrating the state of medicine in the colonies before and during the American Revolutionary War period. Especially stressed was the work of Dr. James Tilton, a Delaware native and first president of the Medical Society of Delaware.

A second part was composed of a series of frames of postage stamps depicting the history of medicine on stamps with emphasis on the great personalities in medical research from ancient times till the present.

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DRUG REACTIONS

Stephen D. Lockey, Sr., M.D., *Emeritus Chief, Department of Allergy; Emeritus Associate Chief, Department of Inhalation Therapy, Lancaster General Hospital, and Allergist, St. Joseph Hospital, Lancaster, Pa. Presented to the American Medical Association 120th Annual Convention, Atlantic City, New Jersey, June 20-24, 1971.*

The adulteration of drugs, foods, and cosmetics with coloring, flavoring, and preservative agents of coal tar, petroleum, and their synthetic derivatives, is often responsible for reactions in allergic individuals. It is known that cross-reactions occur in individuals allergic to derivatives of coal tar, petroleum, and their synthetic derivatives. When additives are incorporated into drugs, foods, or cosmetics, their full names and their origin should be listed on the label. This information would enable individuals sensitive to a particular additive to avoid the use of any drug, food, or cosmetic in which it is present.

The additives are rarely listed in the description of a drug, food, or cosmetic. Through experience physicians have learned that, in the management of highly sensitive patients, it becomes necessary to ascertain what specific chemicals and other substances are present in a prescribed drug, food, or cosmetic. It would be of tremendous value to all physicians and the general public if the Food and Drug Administration were to issue a concise regulation requiring full disclosure of all additives present in drugs, foods, and cosmetics besides the main ingredient.

At one time one could say that if a reaction occurred after a drug, food, or cosmetic had been used for some time, disappeared when discontinued and returned when the individual again used the same drug, food, or cosmetic, the antigenic nature of the drug, food, or cosmetic could be assumed. This is no longer true as some additive beside the main ingredient may have been responsible for the reaction.

The ingredients including vehicles and excipients present in any generic or proprietary drug, food, beverage, or cosmetic should be listed on labels attached thereto.

Dermatological Manifestations of Drug Reactions

Type	Most Common Offenders
Urticaria	Organ extracts, penicillin, streptomycin salicylates, sera, food adulterated with coloring, flavoring and preservative agents of coal tar origin
Allergic Eczematous Dermatitis	Sulfonamides, penicillin, mercurials arsenicals, local anesthetics, quinacrine HCl, quinine, aniline dyes, arsphenamines
Fixed Eruptions	Barbiturates, phenolphthalein, quinacrine HCl, sulfonamides, gold, phenacetin, antipyrine
Erythema Multiforme and Nodosum-like Lesions	Bromides, iodides, salicylates, phenacetin, sulfonamides, penicillin, phenolphthalein
Purpura	Barbiturates, gold salts, iodides, sulfonamides, arsphenamines
Exanthematic	Barbiturates, sulfonamides, heavy metals, arsenic, salicylates, foods adulterated with coloring, flavoring and preservative agents of coal tar origin, penicillin
Bullous Eruptions	Iodides, gold, salicylates, Sulfonamides, phenolphthalein
Exfoliative Dermatitis	Arsenicals, barbiturates, gold salts, mercurials, quinacrine HCl, belladonnna

MANAGEMENT OF ACUTE ALLERGIC EMERGENCIES

1. Treat the anaphylactic shock — establish adequate airway. Place patient in head low trendlenburg-position and keep warm.
2. Initiate steps to reduce localized edema in larynx and bronchi.
3. Wet a 2 ml syringe with 1:1000 epinephrine HCl. Withdraw blood into the syringe where it will admix with the epinephrine; reinject slowly, intravenously.
4. Inject 0.4 ml of 1:1000 epinephrine HCl intramuscularly. 0.2 ml may be injected into site of antigen injection (Sera of equine origin, liver, antibiotics, etc.) providing that is what caused the emergency.
5. A tourniquet should be placed above the site of the antigen injection. 0.5 ml of 1 to 1000 epinephrine HCl may be given intramuscularly or subcutaneously five minutes later. At this time, 0.2 ml of epinephrine suspension may also be given subcutaneously (slow absorbing epinephine).
6. If improvement is still not apparent, inject 0.2 ml of 1:1000 epinephrine in 2 ml of dexamethasone phosphate containing 4 mg per ml or 2 ml of prednisolone — 21 Phosphate containing 20 mg or 1 ml of methylprednisolone sodium succinate containing 40 mg per ml.
7. Should the patient be an asthmatic with complications, that is, dyspnea, respiratory difficulties, and wheezing, theophylline ethylenediamine in 10 ml of water should be given slowly, intravenously, for injection.
8. If the patient is cyanotic, oxygen should be given.
9. Artificial respiration should be given immediately if respiratory movements have become poor, or have ceased. If a patient is in a hospital, oxygen administration with an intermittent pressure apparatus may also be helpful. If necessary, give 1:1000 epinephrine HCl intracardially.
10. Be prepared to do an endotracheal intubation or emergency tracheotomy
11. After the above steps have been taken, an antihistamine, 50 mg of diphenhydramine hydrochloride or 10 mg of chloropheniramine maleate may be given intramuscularly or intravenously, to minimize further action of the released histamine.
12. On occasions, you will encounter a patient with profound and continued shock, as shown primarily by persistent low blood pressure. In cases of this type, employ the following procedure — add 2 ml of 1:1000 epinephrine HCl plus 40 mg of methylprednisolone sodium succinate to 1000 ml of 5% glucose in saline or distilled water and adjust rate of flow intravenously to maintain blood pressure.

ANAPHYLACTIC KIT FOR DRUG REACTIONS

Epinephrine 1:1000 one multiple dose vial
Three 1 ml ampules, sterile, 1:1000 epinephrine
Two syringes, 2 ml — glass, sterile
Three disposable 1 ml tuberculin syringes with needles to fit
Two hypodermic needles — 23″ gauge — 5/8″
Two hypodermic needles — 22″ gauge — 1″
Two hypodermic needles — 21″ gauge — 4″
Two ampules of aminophylline — 250 ml each
One ampule 5% glucose in distilled water — 250 ml each
One intravenous set
One vial of chlorpheniramine maleate 100 mg/ml
One vial of chlorpheniramine maleate 10 mg/ml
One 10 ml vial of injectable diphenhydramine hydrochloride 10 mg/ml
One ampule of methylprednisolone sodium succinate 40 mg/ml or
One 5 ml capped bottle of injectable prednisolone — 21 phosphate 20 mg/ml or
One capped vial of injectable dexamethasone — 21 phosphate 0.4 mg/ml
One scalpel
Two hemostats
One ampule of catgut with needle
Alcohol
Gauze sponges
Tongue depressor
One syringe — 20 ml
One adult and one child size endotracheal tube
One tracheotome set
One needle, 14 gauge for insertion below glottis in tracheal edema cases
One tourniquet
One vial of meperidine hydrochloride 50 mg/ml
Small oxygen tank, mask and one child's and one adult's resuscitator
Ampule of levarterenol bitartrate solution 0.2%

Editorials

AN IMMUNIZATION CRISIS?

For the past year, there have been increasing reports from independent authors and from the Center for Disease Control of the USPHS that immunization levels against the common childhood diseases are declining steadily in the United States. As a result, a survey was undertaken in the public schools in Delaware to get some estimate of what the levels are in the kindergarten and first grade population of the State. An examination of the children's school health records was done by the school nurses, and the information was forwarded to the Division of Physical Health for compilation and analysis.

Not unexpectedly, it was observed that even in this group of children who would be expected to have relatively high immunization levels there was a pattern which closely resembles the national data. The immunization levels in the Delaware survey are perilously low.

Except where there has been a recent mass immunization program, less than 50% of the five- and six-year-olds in Delaware are completely immunized against DPT, polio, measles, and rubella. With regard to the specific disease entities, the data show that for polio only 63% of this population have been immunized, and despite relatively recent mass immunization programs in rubella and measles, 30% remain unimmunized. In other words, we are faced with the inescapable fact that three out of every ten children beginning school in this State are still susceptible to diseases for which we have inexpensive, readily available prevention. As expected, the lowest levels of immunization are found in the less affluent communities.

The somewhat dismal figures cited and the occurrence of an unusual number of cases of pertussis in Sussex County during September-December 1971, suggest that the medical community particularly should be alerted to the need for more intensive follow-up and recall of their young patients whose immunizations have not been completed. Review of school health and well child clinic records should be an on-going procedure for determination of immunization status, and every effort should be made to keep up-to-date the regular boosters, as well as the basic immunization series.

Catherine B. Middleton, M.D.

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MAKING DELAWARE SAFE FOR CYCLISTS

When Dr. Paul Dudley White visited Wilmington under the auspices of the Delaware Heart Association a few years ago, he — and he is at least an octogenarian — had himself photographed sitting on a bicycle. Back home in Boston he rides one; around here he'd have been risking his chances to reach ninety. For only the brave or foolhardy venture to ride bikes anywhere in urban Delaware which, unlike Boston, has no bikepaths. The improvement to heart and lungs by bicycling is hardly offset by the danger to life and limb of cycling on roads designed for automobiles.

Bike riding, even if hazardous, is more and more popular these days, so popular that new bikes are hard to find in the stores (other than the stunt-capable, gimmicky kind favored by youngsters but not by serious cyclists).

Before I-95 was opened to cars, the numbers of Sunday bike riders utilizing the auto-free concrete strips attested to the desire of many of Delaware's citizens of all ages to have a safe place to ride bikes; I know because I was there.

Two young boys were killed in Delaware recently riding a bike, and at least three other riders have died in the past year. But to my knowledge no one has yet made any serious plans for the establishment of bicycle pathways in any of our county or state parklands or along the beautiful Brandywine. Horse paths and foot paths there are; bike paths, none to date.

Delaware's physicians should lend their weight towards influencing the appropriate state and private agencies into providing some bicycle paths through our beautiful Brandywine Valley. Oregon's laws assign 1% of all highway funds for bicycle paths and pedestrian walkways. Cycling is a non-polluting, all-age suitable, healthful recreation which should be, but is not hereabouts, safe. We suggest that interested physicians write to Governor Peterson or their own legislators with copies to:

Mr. Ralph Cryder, Director
New Castle Department
of Parks and Recreation
102 Middleboro Road
Wilmington, Delaware, 19804

or: Mr. Peter Geldof, Director
Department of Natural Resources
and Environmental Control
Division of Parks, Recreation
and Forestry
State of Delaware
Legislative and D Streets
Dover, Delaware, 19901

Since the *British Medical Journal* recently reported a contraceptive effect in men who bicycle more than two and a half hours per day, we might also be able to influence Planned Parenthood to promote bicycling along with its other gadgets.

B.Z.P.

Editor's Note: National Bikecology Week was celebrated May 1-7.

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Letters to the Editor

To the Editor:

Dr. Paul Dudley White is greatly admired — even venerated — for his inspired leadership in awakening Americans to their need for bicycling. Now there is need for the physicians of this community to follow his example in as many ways as possible, as their influence is essential to the success of this movement.

Physicians are urged to support pro-bicycle legislation and encourage others to do so. *Friends for Bikeology* (1035 East De La Guerra St., Santa Barbara, California, 93103) is a national organization successfully fighting for the protection and encouragement of bicycle riding and the building of bikepaths. A contribution of from $5 up will bring literature for your waiting room, a publication called *Serendipity*, and support for an active lobby.

The highway trust fund was invented by the highway lobby in 1956 and assures that every dollar the federal government collects in taxes for gasoline, tires and other automotive products will be devoted to building highways. We can "bust the trust" by writing to Congressman duPont and Senators Boggs and Roth asking that they support the National Transportation Trust Fund idea (S.295 is one such bill) and *insist that bikepaths be explicitly included in the bill.*

Copies of your letters should go to Senator Birch Bayh, Chairman, Subcommittee on Roads, Public Works Committee and Rep. John Blatnik, Chairman, Public Works Committee.

MARTHA NEWLON, Coordinator
Friends for Bikecology

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To the Editor:

I am editing a book on the role of faith or religion in healing from a physician's standpoint. Any physician interested in contributing to this book, please write to me at 4-C Doctors Park, Asheville, N. C., 28801.

CLAUDE M. FRAZIER, M.D.

President's Page

APPRECIATION OF FIFTY YEARS OF SERVICE

The Woman's Auxiliary to the American Medical Association celebrates a 50th year anniversary May 26, 1972. The AMA House of Delegates meeting in 1922 at St. Louis passed the resolution . . . . "to extend the aims of the medical profession through the wives of doctors to the various woman's organizations which look to the advancement in health and education, to assist in entertaining at all medical conventions and to promote acquaintanceship among doctors' families so that closer fellowship may exist." Service with extensive achievements and accomplishments has occurred during these fifty years, and entertainment has become incidental. The medical profession of Delaware recognizes this outstanding service with appreciation.

Only four states had auxiliary organizations prior to 1922. Mrs. Samuel Clark Red of Houston, Texas, recognized the values of the auxiliary and with conviction to effort and dedication to purpose made the Woman's Auxiliary to the AMA a reality which now numbers 88,000 members.

The Medical Society of Delaware at the 150th annual session held in October 1929 at Farnhurst passed a resolution to form a Woman's Auxiliary to the Society. The organizational meeting was held December 10, 1929, with Mrs. Robert Tomlinson becoming the first president and later the national president in 1934. Our auxiliary is currently working very closely with us, and I extend the Society's appreciation for the service of the current 324 auxiliary members in the 43rd year of their organization.

The auxiliary is very responsive to community needs in disease detection or prevention. The doctors' wives have stood by their husbands' sides ready to serve. Scholarships for nursing started in 1950 have aided many; as shortages and recruitment of allied health careers become acute, scholarships and loans nationally by the auxiliary have risen to $624,000 annually. Recognizing the need to educate more physicians the Delaware auxiliary continues to be an active part of raising funds for the AMA-ERF, with the effort raising up to $550,000 annually on a national basis for this purpose.

The auxiliary has been a prime moving force in volunteers for statewide chest x-ray surveys, the bloodmobiles, health clinics, collecting surplus medical equipment and supplies for international service, pharmaceutical samples for clinics for the disadvantaged, orthopedic appliances and shoes for the ship "Hope," visual screening of children for amblyopia, poison control, air pollution control, entertainment at Senior Centers, child care for Family Court, non-partisan political action, and many other projects. The Woman's Auxiliary to the Medical Society of Delaware has performed the mission "to extend the aims of the medical profession" and has secondarily succeeded in the "promotion of acquaintanceship among doctors' families."

H. M. B.

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In Brief

Speakers on "Ask the Doctor"

Speakers for June 1972 on the Tuesday radio program (11:05 a.m., WDEL) produced by the Medical Society of Delaware are: June 6, George J. Boines, M.D., *Recent Developments in Multiple Sclerosis;* June 13, Jerome Kay, M.D., *Depression;* June 20, Louisa C. Mankin, M.D., *Role of the School Doctor;* June 27, Jack C. Salee, M.D., *Miscellaneous Allergies.*

Accidental Deaths: 117,000 per year

According to J. D. Farrington, M.D., Vice Chairman, Registry of Emergency Medical Technicians-Ambulance, the rising number of accidental deaths each year, some 117,000 in 1970 with 56,000 of these occurring on the highways, attests to the inadequacy of emergency care for the critically ill and injured. The picture became more gloomy when studies proved that some 20% of the deaths on the highways could have been prevented by better care at the scene and during transport. When one adds to these figures the 400,000 deaths from heart attacks each year, the problem becomes one of great magnitude.

New Pre-Med Program

A pre-med program has been developed at the U. S. Naval Academy. The program consists of a biological-science major at the Naval Academy followed by four years of medical training at one of the best medical schools in the country. This training will then be followed by one year of internship in the Navy. Upon completion of the last year the new medical officer will have had a ten-year education.

Selection for this program will be based on class standing at the end of the plebe year. Up to two percent of the class may be selected. Once the selection is made, no additional midshipman will be selected even if vacancies occur.

The selection procedure is so competitive that young men interested primarily in a medical career should be counseled to attend a medical school and *not* the Naval Academy.

In the News

The Delaware Psychiatric Society has elected as its president for the coming year Dr. Patricia Mack-Toner and Dr. Mary Elizabeth Traynor as president-elect. She is to become president next year.

Dr. V. Terrell Davis was elected secretary- treasurer of the society, and Dr. Lidia Bales and Dr. Richard Winkelmayer were named delegate and alternate delegate, respectively.

Drs. Tengiz Alatur, Nicholas P. Bash, Paul Dunn, Richard Kester, Charles Strahan, and George Voegele will serve on the society's council, and Dunn remains parliamentarian.

A Thank You

"The recent 'Potpourri in Artistry,' held on Sunday, April 16, 1972, by the Woman's Auxiliary at the Delaware Academy of Medicine was a most successful event. A profit of $1,280 was made to benefit AMA-ERF and the Delaware Academy Student Loan Fund."

Mrs. W. T. Hall, Chairman

AMA Tour in Israel

The AMA is co-sponsoring, with the three principal medical institutions in Israel, a 1973 conference in Tel Aviv. The 14-day trip will include scientific presentations by leading Israeli authorities and visits to medical and research facilities.

Group travel arrangements are being coordinated by the Sentinel Travel Bureau of Chicago. Round trip group-fare New York to Israel and return will be $873.00 to $945.00, depending on hotel selection and the number of other stop-overs in Europe.

Detailed program of the meetings in Israel can be obtained by writing to the Department of International Medicine, AMA, 535 North Dearborn, Chicago, Illinois, 60610.

Research Grants Offered

The National Society for the Prevention of Blindness will provide *prompt support to promising investigators who have not received extensive financial support for research in the past* for conducting pilot projects with annual allocations no greater than $5,000 and not financed by other sources of research funds. Grants are made for a one-year period. The maximum period of support for research is two years. Applications will be accepted any time during the year and awards are made quarterly. For further information write: Committee on Basic and Clinical Research, National Society for the Prevention of Blindness, Inc., 79 Madison Ave., New York, N.Y., 10016.

Sterilization Law Suits

In the latest decision in a rising tide of lawsuits by indignant women against recalcitrant hospitals across the country, the Second Circuit U.S. Court of Appeals in New York ruled in the case of Mrs. Linda McCabe vs Nassau County Medical Center, Long Island, N.Y., that a hospital may be held liable for proven damages for pain and suffering and violation of constitutional rights caused by the hospital's refusing the woman a requested sterilization operation. The court's decision also means that money damages against the hospital may be sustained even if the woman has already obtained the operation after some delay from the hospital involved, provided damages are proved.

Wine and Health Writing Awards

The 1972 contest recognizing outstanding communications about wine-and-health has been announced. One thousand dollar prizes will be awarded in three categories for works which tell of the health aspects of wine and appear during the year 1972. Prizes will be awarded for articles published in public newspapers and magazines, in medical publications, and for radio-television broadcasts. Deadline for submission of entries is January 31, 1973. Details of the contest are available from the Administrator, Wine & Health Writing Awards, 2729 W. Lunt Ave., Chicago, Ill., 60645.

CLINICAL NOTICES AND MEETINGS

Health Administrators Program

An intensive series of seminars dealing with health care issues and trends, administrative developments, and directions for health planning and health systems development will be held at Cornell University, June 18-30, 1972. The cost is $800. For further information write: Health Administrators Development Program, Sloan Institute of Hospital Administration, Graduate School of Business and Public Administration, Malott Hall, Cornell University, Ithaca, New York, 14850.

Long-Term Care

An AMA Conference on Long-Term Care, *The Stroke Patient in the Long-Term Facility,* will be held at Del Webb Townehouse, San Francisco, California, June 20, 1972. For information write: American Medical Association, 535 North Dearborn Street, Chicago, Ill., 60610.

International College of Surgeons

The Mid-Summer Meeting of the International College of Surgeons will be held July 5-10, 1972 at Lake George, New York. Registration fee is $20 for nonmembers and should be made with Mr. James Feyco, General Manager, Sagamore Hotel, Bolton Landing, Lake George, N.Y., 12804.

Emergency Care

The Committee on Injuries of the American Academy of Orthopaedic Surgeons has announced its 1972 schedule of courses on Emergency Care. One will be held June 19-22, 1972 in Boston, Mass. The Academy is also offering a copy of the publication, "Emergency Care and Transportation of the Sick and Injured," to the public at the price of $4.95. For further information concerning the courses or the publication write: American Academy of Orthopaedic Surgeons, 430 North Michigan Avenue, Chicago, Ill., 60611.

Diving Medicine

The National Association of Underwater Instructors will present a course for physicians in Diving Medicine, July 22-28, 1972 in Honolulu, Hawaii. For information write: NAUI Headquarters, Physicians Course, 22809 Barton Road, Grand Terrace (Colton), CA 92324.

Immunology and Allergy

An intensive instructional course in current concepts in allergy and clinical immunology, sponsored by the American Association for Clinical Immunology and Allergy, will be held in Seattle, Washington, July 17-19, 1972. For information write: American Association for Clinical Immunology and Allergy, P.O. Box 912 DTS, Omaha, Neb., 68101.

ACP Course

The American College of Physicians will sponsor *Advance Psychiatry for the Internist,* June 12-16, 1972 at the Sinai Hospital, Baltimore, Md. Write: Registrar, PG Courses, ACP, 4200 Pine Street, Philadelphia, Pa., 19104.

CLASSIFIED AD SECTION

Advertisements under the Classified Ad Section are charged at the rate of 30 words or less, set solid. One insertion $4.00. Call the Journal office, 658-7596 for further information or placement. All advertisements are payable in advance. The Editorial Board reserves the right to edit copy. Closing date for new copy is the first of the month for inclusion in the current issue.

Classified advertisements of a professional nature are free to members.

SURGEON'S ASSOCIATE: Will complete Physician's Associate Program at Duke University in August. Received B.S. degree in graduate work in Biochemistry. Experience includes Operating Room scrub technician.

OB-GYN: FLEX-licensed. Three-year residency in OB-GYN at Maimonides Medical Center, Brooklyn, N. Y. Passed written test in OB-GYN specialty board examination. Now full-time fellow at Queens Hospital Center, Jamaica, N. Y.

OTOLARYNGOLOGIST: Board-Certified. Interested in group or partnership practice. Now completing military service.

UROLOGIST: Associate or full hospital urology. Licensed in Delaware. Completed residency at Graduate School of University of Pennsylvania 1971. Now at Kessler Hospital, Hammonton, N. J.

OPHTHALMOLOGIST: ECFMG. Internship Hutzel Hospital, Detroit, Michigan. Basic Science in Ophthalmology Certificate. Kresge Eye Institute, Wayne State University. Ophthalmology residency Harper Hospital, Children Hospital, Detroit General and Veteran's Administration, Detroit, Michigan.

INTERNIST: Interested in Cardiology and Nephrology. Board Eligible. Prefers associate or institutional practice. Available July 1, 1972.

RECOMMENDED SERVICE: Magazine subscription billing. Central source eliminates confusion and duplication. Moore Sales Co. N. J. See ad in April issue of the *Delaware Medical Journal.*

The Physician and The Pharmacist

A monthly feature of the Delaware Pharmaceutical Society

CHLORPROPAMIDE — Hyponatremia

Chlorpropamide (*Diabinese, Pfizer*) is known to have an antidiuretic action. While this effect may be welcome therapy for patients with diabetes insipidus, it may result occasionally in a major and even life-threatening complication. The present authors observed five patients with diabetes mellitus in whom the administration of chlorpropamide was associated with hyponatremia and serum hypo-osmolality, continued sodium excretion despite hyponatremia, and impaired ability to dilute urine maximally and to excrete a water load. This phenomenon represents a drug-induced syndrome of inappropriate activity of antidiuretic hormone due to enhancement of activity by chlorpropamide. Clinical and chemical abnormalities were corrected by withdrawing the drug, and reappeared when chlorpropamide was readministered. The reason for the development of hyponatremia in some patients treated with chlorpropamide and not in others is not clear. The incidence in this series was approximately 4 per cent, which would indicate that 14,000 to 18,000 persons may be currently experiencing morbidity from this cause.

Weissman PN, et al: NEJM 284:65, 1971.

A Theory of Motion Sickness Based on Pharmacological Reactions

A series of anti-motion sickness drug evaluation experiments has been performed at the Naval Aerospace Medical Institute in Pensacola. Carefully controlled laboratory conditions using the slow-rotation room were maintained. The results were confirmed by similar experiments in the air and at sea. The effective drugs fell into two categories, those that blocked acetylcholine in the central nervous system (scopolamine) and those which activated the central sympathetic areas (amphetamine). A combination of drugs involving both of these mechanisms was the most effective preparation for preventing motion sickness. These results have indicated that there may be competitive neural systems involved with motion sickness, one activated by acetylcholine and one most likely mediated by norepinephrine. Motion sickness occurs when activation of the acetylcholine system disturbs this balance, and protection by motion sickness drugs is achieved by preventing this disturbance.

Wood C and Graybiel A: Clin Pharmacol & Ther 11:621, 1970.

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ANTIBIOTICS

Transfer of Bacterial Resistance between Organisms

Though bacteria began building up resistance to drugs soon after the large-scale introduction of antibiotics several decades ago, the difficulties then were limited to a few antibiotics, particularly penicillin. There is now mounting evidence that certain bacteria can transmit to one another the ability to defy drugs. The transfer of resistance genes within and between bacterial species was first reported by Japanese workers (1959) and subsequently described in the United States (Clin-Alert No. 263, 1966). The present British report describes the transfer of carbenicillin resistance between different species of gram-negative bacilli growing together on burns of mice. Treatment with carbenicillin for mixed infections of mouse burns with virulent marbenicillin-sensitive *Ps. aeruginosa* and a resistant strain of *E. coli* (the latter acting as a donor of transferable resistance to the former) had no therapeutic effect. The demonstration of resistance transfer as a potentially important factor in hospital infection raises new problems in the control of infection.

Roe E, et al: Lancet 1:149, 1971.

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MYOCARDIAL INFARCTION

• Myocardial infarction, the biggest killer in the United States, is most lethal during the first few minutes and hours. The primary physician must be prepared to give proper early treatment prior to the patient's being transferred to a proper hospital environment. Such treatment could well be the difference between life and death.

A. Henry Clagett, Jr., M.D.

Introduction

The importance of myocardial infarction can be realized when it is considered that of the two million deaths in the United States per year, 500,000 are due to myocardial infarction. Furthermore, the highest mortality occurs in the first few hours of this condition with the patient's chance of survival from a single attack of myocardial infarction increasing with time.

No one ever died from an uncomplicated infarction of the myocardium. The complications which lead to death are shock, pump failure, arrhythmia, rupture of the myocardium, and embolic phenomena. It is thought that embolic phenomena have been controlled to some degree by anticoagulant therapy. Rupture of the myocardium is fatal once it occurs; the only hope, therefore, is its prevention by adequate rest. The treatment of shock and failure are still unsatisfactory. The one bright spot in this entire picture has been the recent advances in the treatment of the arrhythmias.

Diagnosis

1. *High Index of Suspicion*

The "typical" picture of acute myocardial infarction is characterized by being atypical. While one usually thinks of a patient who is having an acute myocardial infarction as suffering a crushing retrosternal pain accompanied by a cold, clammy sweat, this "typical" picture occurs in only a small number of patients. The pain can vary from severe, crushing, retrosternal pain to severe pain in other parts of the body, notably the throat, the neck, the jaw, the left shoulder, and the left arm. In many instances, however, the patient denies "pain" by name and refers to it as a sensation of "discomfort" or even "misery." While there has been much written concerning the "silent myocardial infarction," I personally do not believe that such a condition exists. The papers written on silent myocardial infarction are from the pathologist who finds evidence at autopsy of an old myocardial infarction but unfortunately cannot go back and requestion the patient. If, during the course of a routine examination, electrocardiographic evidence is discovered of an old

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Dr. Clagett was formerly Chief of the Cardiovascular Section, Memorial Hospital in Wilmington, Delaware.

myocardial infarction, one has the opportunity to requestion the patient; thorough requestioning will almost always elicit a history. This is often atypical and may well be ascribed to an old episode of "indigestion," but I therefore feel that atypical infarction is a much preferable term than silent infarction.

Forty years ago students were taught how to treat "acute indigestion," at that time a leading cause of death. This was characterized by retrosternal distress frequently following a heavy meal. We now know that this was a mistaken diagnosis and that these patients were actually suffering from myocardial infarction; pumping out their stomachs not only was ineffective but conceivably may have hastened their demise.

In other words, one must have a high index of suspicion to make an early diagnosis of acute myocardial infarction. Patients with either "atypical" or suggestive pictures must be considered as having an acute myocardial infarction until proven otherwise.

2. *Differential Diagnosis*

While it is not good medicine to make any diagnosis by exclusion, there are certain conditions which may be confused with acute myocardial infarction and which certainly should be considered in the differential diagnosis of a myocardial infarction.

Acute Anxiety

A patient with an anxiety neurosis, particularly if there has been a death from myocardial infarction in the family or in a close friend, will frequently be suspected of having a myocardial infarction. While neurosis must always be considered in the differential diagnosis, one must remember that a neurotic individual can still have organic disease and merely being a neurotic does not by any means exclude the possibility of acute myocardial infarction.

Acute Pericarditis

The pain of pericarditis is frequently confused with that of acute myocardial infarction. Furthermore, the electrocardiographic findings are similar, particularly if one has only an initial tracing. In addition, enzyme studies helpful in the differential diagnosis take time. In general, the diagnosis of pericarditis should be made in the individual past age forty with great reservation. The electrocardiogram of pericarditis will show elevation of the ST segments in practically all leads rather than reciprocal depression in leads from distant portions of the heart. Secondly, Q waves are not a part of the picture of pericarditis. Thirdly, and most characteristically, the tracings in pericarditis will change, not only from day to day, but from hour to hour, the fluctuating T waves going in both positive and negative directions.

Dissecting Aneurysm

This condition is frequently confused with acute myocardial infarction although the pain is more likely to be transmitted to the neck, the arm and even the leg. If all of the peripheral pulsations are normal, the diagnosis of a dissecting aneurysm is unlikely.

Pulmonary Embolus

It is frequently difficult if not impossible to make the differential diagnosis between myocardial infarction and pulmonary embolus early in the course of the disease. Fortunately, however, at this stage it is only of academic interest since the treatment is similar for both conditions.

Gastrointestinal Diseases

— Gall Bladder Colic

The pain of acute gall bladder colic frequently is in the midline and in the low sternal area rather than in the typical gall bladder area of the epigastrium. To further complicate the picture, electrocardiographic abnormalities are sometimes seen accompanying acute gall bladder colic. These changes, however, are not those of acute myocardial infarction and the differential diagnosis should not be difficult if the possibilities are kept in mind.

— Perforated Peptic Ulcer

The pain and shock of this condition may be confused with that of myocardial infarction but with the abdominal findings, the differential diagnosis should not be difficult.

— *Perforated Esophagus*

This condition, like acute myocardial infarction, frequently comes on after a meal. Examination of the chest should give the first clue when pleural effusion is found on physical examination or x-ray. When examination of this fluid discloses gastric contents, the diagnosis is obvious.

— *Pancreatitis*

This condition may also be accompanied by shock and severe pain coming on after a meal. A rigid, board-like abdomen should guide one away from the diagnosis of acute myocardial infarction.

Pulmonary Diseases

Spontaneous pneumothorax and mediastinal emphysema not only cause chest pain but also will cause abnormalities in the electrocardiogram. Nowadays with 12 lead EKG's the changes are not confused with those of myocardial infarction. When the "standard electrocardiogram" of three leads plus one chest lead taken at the apex was routine, spontaneous pneumothorax frequently caused inversion of the T wave in the precordial lead and erroneously pointed toward a diagnosis of myocardial infarction until the true cause of the pain was elicited by physical examination and/or x-ray study.

Musculoskeletal Disease

This is more often confused with coronary insufficiency (angina pectoris) than acute myocardial infarction. This pain is usually related to the scalenus syndrome (thoracic outlet syndrome) which may cause discomfort in the region of the left shoulder but can also spread across the anterior and posterior chest and possibly up the neck. The differential diagnosis should not be difficult if this condition is kept in mind and a careful history obtained.

Confirmation

The electrocardiagram will usually give immediate confirmation of the presence of recent myocardial infarction. The changes of marked elevation and depression of the ST segment with abnormal Q waves usually appear within minutes of the onset of the pain. The only exception is in the small atypical infarction described 20 years ago by the British (now known as T wave infarction) in which there is no Q wave. The infarction is limited to a position inside the myocardium and does not go through and through from the endocardial to the epicardial surface. In this condition, the T waves fail to become inverted until later, and this may confuse the diagnosis. By the same token, however, the mortality in this type of infarction for the particular episode is practically nil and one therefore has time to arrive at a proper diagnosis.

The enzymes are of importance in a few cases. Where one has a patient with typical chest pain and typical electrocardiographic findings of acute myocardial infarction, there is little need for confirmation by enzymes or any other studies. One situation in which enzymes are of help is the patient with findings suggestive of acute myocardial infarction and complete left bundle branch block. Complete left bundle branch block is an electrocardiographic abnormality that usually will mask the serial changes of acute myocardial infarction. In this situation the enzymes are frequently diagnostic. Right bundle branch block, on the other hand, does not mask the changes and the use of the enzymes is not as necessary. The frequent practice of ordering enzymes for three, four or five days routinely before the results of the initial studies are even reported, should be condemned. This is an unnecessary expense and waste of laboratory facilities.

Treatment

Most important in the early treatment of this condition is the relief of pain by narcotics (morphine is preferable) and oxygen. Every physician should carry in his emergency bag two drugs to be used in the early treatment of the complications of myocardial infarction: atropine and lidocaine. Any patient seen in the home with a tentative diagnosis of acute myocardial infarction and bradycardia should be given atropine 0.4 to 1.0 mg intravenously prior to being transferred to a facility for definitive care. If, on the other hand, the heart rate is rapid or irregular, lidocaine should be given intravenously in a bolus dose of 50-100 mg.

The coronary care unit as a facility for the treatment of myocardial infarction has come into existence in the past ten years. Various statistics have been offered to indicate that the use of the coronary care unit has dramatically reduced the mortality from acute myocardial infarction. The facts do not indicate that the coronary care unit has done this much. I am not detracting one bit from the coronary care units because they have done a tremendous job in one area, and that is in the treatment of patients with the arrhythmias. Despite this, there has been practically no improvement in the mortality either from cardiac failure or cardiogenic shock, and it is the feeling of many, myself included, that patients in severe failure or shock should be admitted to a general intensive care unit rather than a coronary care unit.

My personal philosophy of the coronary care units is that it should be a place with quiet, homelike surroundings, where a person with coronary disease or even suspected coronary disease can be closely observed while being allowed privacy and the opportunity to rest. These conditions cannot be obtained in a general intensive care unit.

Rest

Despite all the other improvements in the treatment of myocardial infarction, rest remains as one of the most important. This does not necessarily mean that the patient should lie flat on his back in bed; in fact, this is not desirable in the elderly patient. Dr. Samuel A. Levine many years ago advocated the "arm-chair treatment," but this did not mean early ambulation but merely that some of these elderly patients or even younger patients in cardiac failure should be *lifted* out of bed into a comfortable chair and then *lifted* back into bed without actually becoming ambulatory. He found that a patient can rest as well sitting in an arm-chair as lying on his back in bed.

Anticoagulants

The anticoagulants have now been used in the treatment of myocardial infarction for approximately 25 years. There is still considerable controversy regarding their effectiveness. Before one tries to evaluate the effectiveness of any clinical procedure, one should define what it is that they are trying to accomplish. There never has been any evidence to suggest that anticoagulant treatment would cut down on future episodes of myocardial infarction. The strongest advocates of anticoagulants have stated that these drugs are effective in decreasing the number of thromboembolic complications of a patient at prolonged bed rest. There is a large school of physicians who believe that the anticoagulant need not be given in the "good risk patient." The other school points out that one cannot predict when a "good risk patient" will become a "poor risk patient." There is no doubt that the use of anticoagulants has been followed by a decrease in the number of thromboembolic phenomena. Whether or not this is due to the use of the anticoagulants is not certain for liberalization has occurred in the time these patients are allowed to get out of bed. Furthermore, we have all seen patients with excellent anticoagulation by means of intravenous heparin who have developed severe thromboembolic complications. Also, many patients receiving anticoagulants in the average hospital are not receiving effective doses.

As a side effect of the anticoagulant therapy, heparin has been found to have a lipotropic action even in extremely small doses and Coumadin* has been shown in animals to have a vasodilating action, even in doses much less than that required for anticoagulation.

In general, regarding the anticoagulants, they should be used if a patient is to be confined to bed, particularly if congestive heart failure is present or any other complication, such as obesity, unless there is a definite contraindication.

Shock and Failure

Mortality in these two complications has not been significantly altered by any of the new treatments found in the coronary care units. The present treatment of shock in particular is most discouraging, and the mortality rate in patients with this dreaded complication is in the neighborhood of 80-90%. A ray of hope seems to be in the offing with the surgical treatment by use of pump assistance by the by-pass or balloon in the aorta techniques. These procedures are still in the experimental stage. The treatment of failure is less dismal although, again, far from satisfactory. Digitalis and diuretics are the backbone in the treatment of failure in patients with myocardial infarction as they are in patients with other causes of failure. While there has been much caution expressed regarding the use of digitalis in patients with acute myocardial infarction, it certainly must be used when indicated. It has been shown without any question in the treatment of shock that digitalis is indicated in addition to any other agents aimed at increasing the level of the blood pressure.

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*Coumadin®-Endo

A word of caution is in order regarding the diagnosis of shock and failure in patients with acute myocardial infarction. The mere presence of a low blood pressure does not indicate shock. Many people confined to bed will have a lowering of blood pressure. I personally do not care what the patient's pressure is as long as his skin is dry and warm and he is putting out urine. If there is any interference with these functions, however, I will consider the possibility of shock regardless of how high the blood pressure may be. By the same token, occasional crepitant rales heard in the lung bases early in the course of myocardial infarction do not necessarily mean failure, and I would be a little reluctant to start digitalis on this basis alone. If at the end of the first 24 hours rales are still present, particularly if the patient has a tachycardia and/or gallop rhythm, digitalis should be instituted without delay.

Rehabilitation

The aim of rehabilitation in the patient with myocardial infarction is return to a useful existence. The question has been asked as to whether a person can go back to doing what he was doing prior to the attack. Many people do this despite the fact that they may have been engaged in a very heavy type of work and such is not advisable. I would never have advised a patient to run for or serve a term as President of the United States as was done by two men in the fairly recent past, both of whom survived their term in this most strenuous office.

Complications

1. *Arrhythmias*

The arrhythmias, as mentioned above, have in the past been a leading cause of death in acute myocardial infarction, but in the properly operated setting, this should no longer be true.

One of the most common arrhythmias is ventricular fibrillation, which usually follows ventricular tachycardia, which, in turn, usually follows an isolated ventricular premature contraction. The logical method of treatment of this dreaded arrhythmia is to observe the patient with acute myocardial infarction for any ventricular premature beat and to treat such when first seen. If the patient is able to do so, medication by mouth is indicated at the first sign of a ventricular premature contraction. Such medication could be quinidine or procainamide. This frequently will be followed by a disappearance of the ventricular premature beat, but if they should increase in frequency despite the oral medication, intravenous medication can be tried. The most satisfactory intravenous medication for the treatment of the ventricular arrhythmias is lidocaine, which should be given in a bolus dose of 50-100 ml, then given in a slow intravenous drip. When a patient is first seen with ventricular tachycardia, a bolus dose of lidocaine may be given immediately; and if this results in restoration of a normal sinus rhythm, then an intravenous drip of lidocaine may be used to titrate any ventricular premature beats. If, however, the bolus dose of lidocaine does not convert the ventricular arrhythmia, electric DC current shock is indicated. Once the ventricular arrhythmia has been converted by electric shock, the use of lidocaine, procainamide or quinidine is indicated to keep the patient in a regular rhythm. Also important during cardiac arrest is lactic acidosis, which is treated by the use of intravenous sodium bicarbonate. This should be given routinely during cardiac resuscitation of tachyarrhythmias without waiting for laboratory studies.

Some of the training films in the use of electrical and/or drug conversions of the ventricular arrhythmias refer to "bolus dose" of quinidine and procainamide. A bolus dose should be restricted to a dose of medication given as rapidly as possible intravenously through a large needle. Lidocaine is well adapted to this type of administration, but quinidine and procainamide cannot be given by this type of bolus dose as they can cause drastic reactions, frequently fatal. It is much safer to give procainamide well diluted and by slow drip.

Also seen in acute myocardial infarction is cardiac standstill. Fortunately, this arrhythmia rarely occurs without some warning. This warning is the presence of AV block which first is seen as a prolongation of the PR interval, second, progresses to a second degree AV block manifested by dropping beats and, finally, the development of complete AV dissociation or third degree heart block. This progression of AV block is fairly common in infarcts involving the inferior surface of the heart and, fortunately, it is relatively benign in this situation. In such a situation, treatment by atropine and later, isuprel, frequently is all that is necessary to correct this situation. On the other hand, AV block in patients with an acute antero-septal infarct, while rare, is almost always lethal unless corrected immediately by a transvenous pacemaker. It should be a standing order that any patient with an acute anterior infarct and any degree of AV block should immediately have a standby transvenous electrode in place for possible use of the pacemaker.

Complications of shock and failure and the relatively unsatisfactory treatment for them have been discussed above.

Emboli

Emboli complicating acute myocardial infarction can either be venous, in which case they cause pulmonary emboli, or arterial, occurring as a part of a mural thrombus in which case they can cause an infarct of any distant organ: brain, kidney or peripheral. While the incidence of emboli has decreased following the use of the anticoagulants, such medication does not give 100% protection, and some of the decrease, as mentioned previously, could be due to the fact that patients are now being allowed out of bed sooner than they had been in the past.

Rupture of the myocardium can occur, usually between the third and eleventh day of an acute infarction, when the myocardium is soft and spongy. The most significant factor in rupture of the myocardium is the intraventricular pressure. The patient with arterial hypertension is more subject to rupture than the normatensive individual. Physical exertion has long been recognized as a prime factor in rupture. Patients in mental institutions have always been more subject to rupture of the myocardium because in this setting, the primary diagnosis frequently has been overlooked and the treatment has not included rest. If the rupture of the myocardium is into the pericardial sac, death is sudden. This may be the actual event in "bedpan deaths" where myocardial rupture is produced by straining.

Rupture of the intraventricular septum will result in an intraventricular septal defect, which is manifested clinically by the onset of severe and intractable heart failure. Rupture of a papillary muscle, usually of the mitral valve, will result in sudden insufficiency of this valve, also intractable heart failure. Both of these conditions have recently been subjected to surgical correction and the preliminary reports seem to indicate considerable hope in this type of treatment.

Aneurysm of the Ventricle

This is a late complication and usually occurs in a patient who has over-exerted himself during the early stages of infarction. The ventricular wall became distended during its weakened condition and, escaping rupture, was replaced with a large scar of fibrous tissue. This, in the late stages, practically never ruptures but can lead to severe heart failure. Recently, surgical excision of ventricular aneurysms has been successfully performed.

Pericarditis

Pericarditis occurs during the first or second week of an acute myocardial infarction. This is different from the pericardial involvement seen between the second and fifth days of an anterior infarct resulting in a friction rub. Pericarditis must be differentiated from a recurrence of an infarct or extension of the old infarct. No specific treatment is indicated. The "post infarction syndrome," a condition described by Dressler, usually occurs much later, often as late as six weeks following the acute infarction. This is thought to be a pericardial reaction, similar to post cardiotomy syndrome seen in patients who have had open heart surgery. It must be differentiated from a recurrent infarct; steroid therapy is almost specific.

Shoulder-hand Syndrome

This late complication of myocardial infarction, sometimes seen as a complication of angina, is often seen by the orthopedic surgeon. By the time contractures of the palm have occurred, it is too late for any drug therapy. The earliest trophic signs involve the shoulder and the hand in a patient several weeks to several months following myocardial infarction; steroid therapy is curative.

Chest Wall Syndrome

This term is more or less a catch-all. Many patients following their acute infarction become chest pain conscious. When they stop and consider their pain, they frequently will realize that they have had similar pain in the past but never paid any attention to it until they had their acute episode of myocardial infarction.

Summary

In summary, myocardial infarction is one of the leading causes of death in the United States. The complications most usually causing death are shock and failure. Ventricular arrhythmias, once a leading cause of death, are now amenable to treatment if the patient reaches the proper place for treatment in time.

Recent developments have been aimed at a mobile coronary care unit. While this at first seemed to be highly desirable, experience indicates that education of the public is more important, and if the patient will seek treatment in time, the mortality can be further reduced. Curiously, two recent studies regarding the time taken for obtaining proper medical care showed that patients who had a previous myocardial infarction were much slower at seeking care than those who had never had previous disease. I personally am unable to explain this most illogical finding.

This review of Myocardial Infarction was originally presented at the Beebe Hospital as part of the Continuing Medical Education Seminars for Physicians, sponsored by the Delaware Institute of Medical Education and Research, the University of Delaware, and the Medical Society of Delaware. February 5, 1971.

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FIRST STATE CHALLENGE

The health of our people relates to many factors in our society and no one sees these factors more acutely than physicians. Poverty, ignorance, the effects of alcohol, drugs, mayhem on the highway, malnutrition of children, inadequate prenatal care, poisonings in the home, pollution of the air, water, and the earth are all beyond any individual's capacity to change. . . .

. . . It behooves us now to recognize the crucial time we are in and set off in a purposeful and farsighted way to lead the whole field of health care in all its elements for this State. Without leadership we shall have little to say about the future, a future which will be upon us sooner than we think.

Norman L. Cannon, M.D., Vice President for Medical Affairs, Wilmington Medical Center, *Center View,* March 1971.

ADOLESCENT MEDICINE:

AN OVERVIEW

Marjorie J. McKusick, M.D.

Adolescent Medicine as a specialty is barely out of its teens. The first Adolescent Clinic was opened at the Children's Hospital Medical Center in Boston in 1951, under the direction of Dr. J. Roswell Gallagher. Dr. Gallagher is an internist. During the depression, he took a job as school physician at the Hill School, a boys' preparatory school in Pottstown, Pennsylvania. During his years as school physician to boys ranging in age from 12 to 18, he developed an approach to the management of their problems which was not unique in the practice of medicine, but especially suited to teenagers: he listened to them. He not only listened to them, he believed them, sympathized with them, and often defended them against their teachers, their parents, and the adult establishment. He was so impressed with the effectiveness of this technique that he set out to find a setting for a clinic where he could serve a greater number of patients and also train other physicians. He returned to Boston, where he had trained in medicine and was turned down by his old department when he requested office space in the clinic to see adolescent patients. The Children's Hospital, however, saw the need for this type of specialty and was receptive to his enthusiasm. Two years later, in 1953, he developed a fellowship program in Adolescent Medicine. Since then, close to 100 fellows have trained under Gallagher, and, for the last years, under Robert P. Masland at the Adolescent Clinic of Children's Hospital in Boston. These fellows have spread all over the country, as well as Canada, and have been instrumental in developing adolescent clinics and in-patient units for teenagers. A survey published by Rigg and Fisher in 1970 reviewed the hospital medical services for adolescents in the major cities of the United States. Of 49 hospitals surveyed, 18 had adolescent clinics, 12 had special in-patient facilities, 12 had both, and only seven had neither one. The Society for Adolescent Medicine, organized in 1968, now has 385 members, representing 15 different countries. They are presently engaged in establishing guidelines for training programs for fellows in Adolescent Medicine, and there is even some discussion of having specialty boards. Like other teen-agers, the Society is fiercely independent and is resisting affiliation with other societies, such as the American Academy of Pediatrics and the Society for Ambulatory Medicine, for fear of losing its own identity.

Team Approach

This gives you some idea of the way this field has grown in size in the past 20 years. The approach toward management has evolved too, over the years, from Gallagher's original idea of the one-to-one relationship. Although this is still valued by most specialists as being ideal, more and more clinics are using the "team" approach, involving many different disciplines in the management of teen-age patients. The practitioner is still

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Adapted from a lecture delivered for the Fall Course of the Delaware Academy of General Practice, Sept. 22-23, 1971.

the key person in the management, and the one who is primarily responsible for making the diagnosis, planning therapy, and keeping the teen-ager informed of what is going on and why. But most clinics now include on their staff, clinic nurses, public health nurses, nutritionists, psychiatrists, psychologists, and social workers. Consultants in other disciplines are usually readily available, such as gynecologists, orthopedic surgeons. otolaryngologists, etc.

It is generally agreed that the years between 10 and 20 are perhaps the healthiest years of a person's life. The frequent minor infections of childhood have disappeared, leaving the teen-ager with a strong immunological defense against such illnesses. Indeed, the most serious threat at this time of life is that of accidents which are often lethal or seriously debilitating.

In our own clinic at the Delaware Division, we are fortunate in having most of the elements of the team approach. None of us has had special training as Fellows in Adolescent Medicine. Several, however, have taken Dr. Masland's postgraduate training course in Boston, which is held for one week in the spring at Children's Hospital. Those of us working in the clinic and in our own practices with adolescents have learned some of the techniques and encountered many of the same problems encountered in the more sophisticated clinics of the larger medical centers. We have been fortunate too in having an expert consultant, Dr. C. Andrew Rigg, Director of the Adolescent Services of the Children's Hospital of the District of Columbia, attend our clinic once a month to help us with some of our problem cases. He gives a lecture the second Thursday of every month at 10:30 a.m. at the Delaware Division, for anyone interested in the special problems of adolescents.

The most frequently encountered problems in adolescent outpatient clinics are: obesity, skin problems, allergies, epilepsy, cardiac problems, adjustment reactions of adolescence, diabetes, gynecologic disorders, behavior disorders, growth and development disorders, orthopedic problems, ENT problems, enuresis, respiratory infections, and school learning problems. Missing from this list are three serious problems of adolescents: drug abuse, pregnancy, and venereal disease. Patients with these problems do not come to a medical adolescent clinic; they attend other specialty clinics, or we have to seek them out in the community. Many of our patients are drug users, some are pregnant, and some have V.D., but that is not their primary reason for attending our clinic.

Looking at this list, one might point out that except for adjustment reactions of adolescence, these diseases are not unique to teen-agers. What makes them unique at this time of life is that so much is already happening to the teen-ager, both physically and psychologically during these years!

Somatic Events

The adolescent growth spurt and the biological maturation of puberty are the unique somatic events of this age group, distinguishing it from any other stage of life. The effect of these events on the adolescent through their magnitude, timing and variability presents unique problems. The newly acquired physical strength, sexual capability, desire for independence, and search for identity and moral standards by which to live, present the adolescent with powerful forces which he must learn to control, and difficult tasks which he must complete successfully if he is to emerge from adolescence as a happy, integrated adult. In his struggles, he often needs help from us, and this should be based on a knowledge of normal and abnormal, physical and psychological development, and of the influence of diseases on that development.

Some of these diseases may be carried over from the patient's childhood, such as diabetes or heart disease. Others may be acquired during adolescence, such as a slipped capital femoral epiphysis, a disease which classically occurs at this age. We must be prepared to assess what effect the particular disease is going to have on the child's ability to complete school or undergo job training, and we should be prepared not only to make him well, but to help him become a useful member of society.

Let us consider first the physical changes which occur during adolescence. In attempting to assess deviations from normal growth and development, it is helpful to focus on certain general principles:

1. All children pass through the same stages of growth and development, although they may vary in chronologic age at each stage.

2. For any given measurement of maturation, the range of variation among normal children is wide.

3. There are usually correlations between various facets of maturation.

4. Basic patterns of growth and development are determined by individual genetic and endocrine factors but may be modified by environmental factors, such as disease, nutrition or physical and emotional stress.

5. Each child must be evaluated, not by a set of average standards, but in terms of his individual body build and rate of growth. For this purpose, I find it helpful to use anthropometric charts, developed by Reed and Stuart in 1959, and available from Ross Laboratories of Columbus, Ohio. By plottting the height and weight annually over the years, one can easily spot a child who is deviating up or down from his own expected channel. Increase in his weight percentile will alert you to the possibility that obesity may become a problem if the rate of acceleration persists while a decline may make you consider underlying illness or depression. These observations have to be correlated with the history and physical examination, but the chart is a useful tool in assessing growth. Linear growth channels tend to remain more stable than weight, and variation in linear growth is thus a more significant flag to look more closely at the child.

Rates of maturation differ most widely in the adolescent years. Since teen-agers are especially sensitive to being different from their peers, it is at this time that the question of normality of maturation often comes up. It is important to get the family history to assess the hereditary factors. How tall are the parents, siblings and grandparents? At what age did the mother start menstruating, and other close female relatives? Children usually resemble their parents and relatives in stature and time of onset of menses. This can often be a reassuring fact when you are confronted with an anxious child and concerned parents.

Bone age is a valuable measure of physiological maturity and the rate of maturation in adolescents. It correlates well with other aspects of physiological maturity, especially with the development of secondary sex characteristics. It is possible to predict ultimate height, using bone age from hand films, chronologic age and height, from tables by Bayley. Some clinics advocate the use of cyclic estrogen therapy in girls to speed up maturation if the expected mature height exceeds six feet. This medication has to begin well before the onset of menses, ideally at 10 or 11 years of age, in order to have significant effect on bony fusion, and it is recommended that treatment continue for six months after no further growth is registered. We have not tried this in our clinic, feeling that long-term hormonal therapy in young girls has not been adequately tested. In boys of short stature, the question of androgen stimulation to accelerate growth also arises. I feel strongly that this is not wise, since at the same time you are accelerating growth in height, you are also speeding up epiphysial closure, and thus ultimate height will be reduced. A careful explanation of these facts to the boy and his family usually results in their accepting a "watchful waiting" approach.

Adolescence is characterized by a "growth spurt." Except for the first year of life, this is the age when the greatest acceleration of growth occurs. In boys, this occurs between the ages of 13 and 17, in girls between 10 and 14 years of age. Other pubertal changes which occur simultaneously with this growth spurt can be seen on Tanner's charts. (Figure 1)

The important thing these charts show is that there is tremendous variation in the onset and duration of these events but that they occur in sequential fashion once puberty begins.

Tanner's grading of the stages of sexual development is based on development and

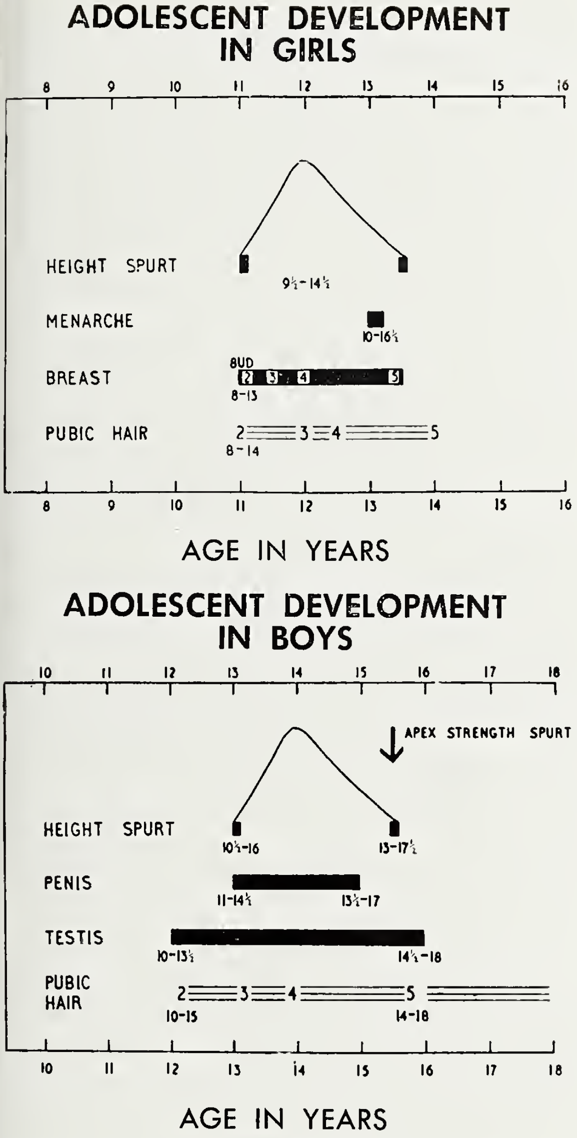

Figure 1

Diagram of sequence of events at adolescence in boys and girls.*

pubic hair texture and configuration in girls, the size of the penis and testes, pubic hair texture and configuration in boys. These observations are graded on a scale of I to V, I being the childhood appearance and V being the fully mature adult appearance. Grades II, III, and IV represent the stages in between. In dealing with large numbers of adolescents, this type of classification is useful. The different stages are fully explained, with pictures, in both Tanner's[1] and Gallagher's[2] textbooks.

Simultaneous with these physical changes are the psychological changes of "growing up," along with all the emotional problems of this age group. There are three major dynamic processes which characterize the psychological development of adolescents. The first is the development of conceptual thought at an abstract level, which is basic to the development of scientific thought and creativity. The second is the adolescent's search for a sense of personal identity. He is continually busy determining his values, beliefs, his future and his role in society. The strengthening of his self-esteem, so important in his development, is favorably influenced by constructive social groups. If these provide creative outlets for his energy, he is likely to become a constructive member of his community. On the other hand, if he joins a delinquent gang, with values directly antagonistic to those of the larger social order, he is likely to exhibit antisocial attitudes and behavior. The last process is the development of appropriate sexual attitudes and behavior. As he experiences a bewildering array of new physical sensations, he develops a keen interest in sex and interpersonal relationships. The forces active in his present environment, combined with the products of his past, determine what kind of sexual adjustment he will make. These three dynamic processes, the development of conceptual thought, the search for identity, and the maturation of sexual attitudes, are accompanied by a rich fantasy life, often associated with moods, attitudes and behavior which may not always seem acceptable, but which are probably very normal. The adolescent vacillates. One minute he is riding high, and the next minute he's down in the dumps; one minute he yearns for solitude, but when the gang comes around, he's out of the door like a shot. One moment selfish, the next he is a model of altruism. Today conforming, tomorrow he is rebellious. The most we can do, as adults, is have patience. We must wait, listen, sympathize, and support, and we must be prepared to give advice, when and if it is requested.

These are the dynamic changes which are

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*Adapted with permission from Blackwell Scientific Publications, Oxford from *Growth at Adolescence* by J. M. Tanner.

occurring during adolescence, which are all part of the normal transition from childhood to adult life. When one superimposes on this any of the medical problems listed above, one can see we are dealing with a great deal more complex situation than when we are handling a similar diagnosis, made in the more stable atmosphere of either childhood or adult life.

Diabetes, perhaps, lends itself as a good example of the complexity of the problem during the teen years. First of all, it is important to remember that diabetes that develops before or during adolescence is the juvenile type, not the adult type. These children are at present committed to a lifetime of daily insulin injections. It often happens that an aunt, uncle, or grandparent is also diabetic and is controlled by diet alone, or diet and pill. In their eagerness to sympathize and encourage the adolescent, they hold out the hope that, some day, the child may no longer have to take injections. This is a tough problem for the physician, but one that must be met firmly and honestly. You must make it clear from the beginning that as far as our present knowledge of the disease and methods of treatment prevail, the needle is a lifetime commitment. This is a difficult concept for the teen-ager to accept. He is overly concerned about his body image; he has a strong desire *not* to be different from his peers, and diabetes sets him apart. When it comes to selecting an appropriate diet, we have another tough problem. The typical teen-age diet is so often high in carbohydrate and low in protein with continual snacking between meals that it is difficult to impose even a reasonably sensible diet on many of these children. The problem is compounded by the high caloric requirements of adolescents, particularly during the years of the growth spurt. Nor can one count on a teen-ager taking a regular daily course of exercise. He is likely to play three vigorous sets of tennis followed by a wild swimming party on Saturday, and then "sack in" most of Sunday, sleeping late, watching TV, and reading comic books. His insulin requirements are vastly different on these two "normal" days in his life. Although it is often written that adolescents are "brittle" diabetics, most adolescent physicians now feel that this phenomenon is probably due to these wide variations in diet and exercise, rather than to any underlying difference in pathophysiology of the teen-age diabetic patient. Clearly, adequate management rests on the basic trust and mutual respect of the patient and doctor. Both must yield a little, the patient accepting some restrictions and the physician allowing some digression from the routine. Nature is on the side of the doctor, since teen-agers do learn from experience. One or two admissions to the hospital for coma or shock are often enough to modify their behavior, but ideally we should strive to avoid this unnecessary and often harmful lesson. We must keep in mind the follow-up studies of hundreds of juvenile diabetics after 20 to 34 years clearly demonstrate that degenerative vascular lesions can be minimized or prevented if good control is maintained in young patients.[3] Thus the goals of management should be freedom from symptoms and from acidosis, a good state of nutrition, as good control as can be obtained without excessive insulin reactions, and satisfactory emotional development. It is the last of these which takes the most time, effort, patience, and dedication.

The "team approach" toward management of adolescents is well illustrated by the diabetic patient also. The role of the doctor has been discussed: he must make the diagnosis, decide what diet and insulin therapy are needed, supervise the follow-up, and make any changes in the regimen of diet, exercise, or insulin at each clinic visit. Moreover, he is primarily responsible for educating the youngster to understand his illness and the importance of certain restrictions, giving the patient plenty of opportunity to ask questions and vent his feelings of anxiety or guilt or other problems associated with the acceptance of his illness. The nurse will then be responsible for making sure he knows how to handle his injections, select proper sites, and observe good techniques of sterilization. She will teach him to test his urine, record and interpret his findings properly, explain what to do if his findings are abnormal, and reinforce the recommendations of the physician regarding diet, rest and exercise. The nutritionist is needed to plan the diet with the teen-ager, adapting the physician's recommendations to the eating habits of the individual child as much as possible. The social worker is helpful on the health team to work with the patient's family, helping them to handle their child in as normal a way as possible within the limitations of his illness. She may wish to make a home visit to assess the quality of the home, the interpersonal relations of family members to determine how well the patient is doing and what conflicts he may have at home due to his diabetes. At times, there is need for psychiatric consultation, if it appears that the child cannot accept his illness, or refuses to follow a regimen, because of an underlying personality structure, which makes him unable to adjust easily to the threat this illness has brought to his usual way of life. All members of the team, then, are important in the attainment of the objectives of therapy mentioned before, not the least of which is in helping to guide the adolescent through a stormy period into mature, self-reliant and productive adult life.

Pregnancy and Venereal Disease

Some special problems of adolescents are the teen-age pregnancy and venereal disease.

One out of every six teen-agers in the United States becomes pregnant out of wedlock, 40 to 50% of all teen-age marriages are prefaced by illegitimate pregnancy, and the number of unwed mothers under 18 has doubled since 1940. Moreover, 40% of women getting married now are under 18 years of age, and one half of these marriages end in divorce within five years. There is evidence that the infants born of these pregnancies tend to have low birth weights and are subject to neglect and unfavorable feelings from immature mothers.

Here in Delaware, thanks to an enlightened body of legislators and a group of hard-working, dedicated laymen, we have been able to assist some of these girls and hopefully to decrease the number of teen-age pregnancies in our community.

The Delaware Adolescent Program, Inc. (known as DAPI) offers five basic services to the teen-age pregnant girl: pregnancy counseling; medical care for herself and her baby for one year, if she decides to keep her baby; continuing education during her pregnancy and after delivery, until such time it is felt she is ready to return to her own school; social services for herself, her family, the putative father and his family, if they request help; and day care for the infants of mothers who have no one to care for their babies when they return to school. The girls are encouraged to use contraceptives after delivery. We have had very few repeat pregnancies (eight reported of more than 500). Three of the eight were allegedly due to contraceptive failures. There have been no maternal deaths and the incidence of maternal morbidity has been reduced, as well as the incidence of low birth-weight infants. Comparative data for 1970 in Wilmington show that DAPI babies weighed less than 2500 gm in 10% of deliveries, whereas the incidence of low birth-weight babies born to non-DAPI teen-age mothers was 20%.

Several legislative actions have bearing on the problem of teen-age pregnancy. Delaware law now allows any girl 12 years of age or over to obtain medical care without parental consent, if she thinks she may be pregnant, and the Delaware abortion laws, revised two years ago, make it possible for many teen-agers to get legal abortions with their parents' consent. Recently, the Attorney General handed down a decision that school nurses may perform a pregnancy test on any school girl at her request. This is now being done in some schools. The Wilmington Public School administration is still considering the best way to implement this decision. As a result of all these activities, pregnant teen-age girls are receiving more and better services here in Delaware.

In addition, many girls and boys are seeking and receiving contraceptive advice, *before* they are in trouble. Many of us view this as a mixed blessing. Are we not encouraging promiscuity by making contraception so readily available? This may be true, occasionally, but I feel it is a much greater crime for us to turn our backs on the needs of these youngsters, who might otherwise become teen-age parents.

In the area of venereal disease, again the statistics are shocking. V.D. is reaching epidemic proportions in some states, and the mean age of the patient is getting lower. Gonorrhea has increased 35% in the last five years in the United States, and syphilis has increased by 40% during this time, making V.D. the leading cause of infectious disease. In the year 1970, Delaware noted a slight decrease in reported cases of gonorrhea (1525 in 1970 vs 1761 in 1969), and a slight increase in syphilis (371 in 1970 vs 340 in 1969). The most recent statistics for this year show a slight increase in gonorrhea and a marked decrease in syphilis from last year at the same time (134 in 1971 vs 292 in 1970). However, I would like to bring to your attention the recommendation of the Division of Physical Health in their morbidity report of August 7, 1971, regarding the importance of doing serologies on pregnant women.

"The rise in incidence of infectious syphilis demands increased vigilance to prevent this disease from infecting unborn infants. Not only should each pregnant mother receive a serologic test on her first prenatal visit, but the testing should be repeated about the seventh month. This will insure detection of infections which may have been missed the first time, and, more importantly, will alert the attendant to infections acquired during the course of pregnancy. When factors prevent repetition of the test in late pregnancy, then by all means one should be secured at the time of delivery. Physicians who give either obstetrical or pediatric care are urged to include syphilis in their consideration when rashes, jaundice, anemia, and failure to thrive present themselves in the newborn."

When we consider that 50% of reported cases of V.D. are in patients below the age of 24 years, and probably only one case in five of V.D. is reported, it behooves us to increase our vigilance. Several approaches have been suggested by the World Health Organization to get this problem under control: education of parents in the proper rearing of children, to foster healthy personalities in future adolescents; health education of children themselves, to develop good attitudes toward sex at an early age; stimulation of interest and alertness among health workers to the prevalence of V.D. in adolescents; and the improvement of epidemiological methods.

Delaware physicians and other health workers are certainly aware of the problem. Unfortunately, we lack the financial resources in our state to employ the best epidemiological methods known today, much less aid in developing new ones. For example, it has been consistently demonstrated that gonococcal cultures are twice as accurate as smears in making the diagnosis of gonorrhea, but our health department cannot afford to do cultures, so gonorrhea smears only are used for the diagnosis of gonorrhea in our state V.D. clinics.

Delaware has taken an important step in efforts to identify cases of V.D. in young people by the legislation passed last year that allows minors of 12 years or more to seek medical help, without parental consent, for infectious disease. Thus, any teen-ager may go to a physician or clinic and receive diagnostic and therapeutic help, without the fear that his parents or the school authorities will find out. The confidentiality of this service has increased the number of teen-agers seeking help, as the word is spread around the adolescent grape-vine, making identification of these patients much easier, and follow-up more satisfactory.

For physicians interested in the teen-agers, Adolescent Medicine is a relatively new specialty, barely out of its teens. It offers a new dimension to the practice of medicine, incorporating, along with one's diagnostic acumen and therapeutic skill, familiarity with the constantly changing physical and psychological dynamics of adolescence. Hopefully, with continuing investigation of normal growth and development during adolescence, and of those diseases and medical conditions that affect adolescents, we may be able to foster and improve the medical care of, and services for, this important segment of our population.

ACKNOWLEDGEMENT

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WHY ARE CLINICAL STATISTICS SO MISLEADING?

Alvan R. Feinstein, M.D.

For almost a century, clinicians have been intellectually anesthetized by the doctrine of Lord Kelvin, 19th-century British physicist, who said in effect, "When you cannot express it in numbers, your knowledge is meager and unsatisfactory." Consequently, since we could not measure such critical human entities as pain, anxiety, and incapacitation, we have measured what we could measure: the size of the pupils, the first derivative of the electrocardiographic curve, and the urinary enzymes.

By ignoring the crucial information contained in important human features we have created and accepted fallacious statistics about the results of treatment. We have classified disease but not patients. The statistics do not account for all the clinical distinctions that demarcate different types of human illness and different prognostic outcomes within the diverse spectrum of the "same" disease. In many statistical designs, heterogeneous clinical phenomena within a single "disease" are lumped together.

Ignoring Observed Features

Most of these defects exist not because they are inevitable or insurmountable, but because we have ignored them. They have not been deemed worthy of scientific investigation. Since the therapeutic care of the patient has not been regarded as a type of experimental activity that requires its own form of scientific method, we have looked for science in the laboratory, but not at the bedside; under the microscope or at the morgue, but not in the doctor's office or in the community. We have searched for science in the act of diagnosis, but not in the plan of treatment; in the study of mechanisms for the pathogenesis of disease, but not in management for the care of patients.

Dr. Feinstein is Professor of Medicine and Epidemiology at Yale University and chief of clinical biostatistics and the Eastern Research Support Center at the West Haven Veterans Administration Hospital.

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A clinician's daily decisions are often deemed scientifically unapproachable because they depend on clinical and personal data obtained and analyzed by human beings observing other human beings. Although a disease can often be appraised by inanimate scientific methods, a sick person must be studied by specifically human techniques of clinical observation and clinical reasoning. The procedures used to obtain the data must provide for all the complexities of people and must be motivated by and performed with human perception. Nevertheless, both the acquisition and the evaluation of the data can be done with scientific reasoning. Clinicians have complacently accepted the traditional but unproved doctrine that their clinical activities are too human and too complex for science.

Misleading statistics fall into at least three major categories. One deals with therapy, another with the incidence of disease, and the third with the range of normal. All three types of difficulty can be attributed to our intellectual hangups in regarding "disease" mainly as an abstract essence, rather than as a collection of manifestations observed directly in a sick person. The problems encountered in these three kinds of statistics have many complex ramifications, of which only the therapeutic ones will be discussed here.

The reason we have so many problems in treatment is that each of the major chronic diseases is usually described by a single name, whereas in fact each of them may cover a wide spectrum of diverse manifestations. Consequently, clinicians may encounter the "same" disease in patients who range from the completely asymptomatic to the moribund.

For example, let us consider patients with coronary artery disease. There are persons in whom myocardial infarction is detected by accident while they are asymptomatic; in others, however, myocardial infarction is manifested by chest pain alone; in yet others, the manifestations are chest pain, shock, and pulmonary edema. Yet when statistical data for treatment are assembled, the authors may simply lump all patients with myocardial infarction together, disregarding these significant prognostic distinctions.

A notable exception to this indiscriminate lumping of patients is the 10-year study of myocardial infarction by Dr. Clifford Tillman, an internist of Natchez, Miss. As one physician observing his own clinical practice, Dr. Tillman, without benefit of grant proposals, punch cards, statisticians, or computers, found results that were later confirmed in more elaborate studies. Although the over-all acute fatality rate of myocardial infarction in Dr. Tillman's patients was 12 per cent, it was zero per cent in patients who had none of three cited complications (shock, congestive heart failure, or serious arrhythmias), 17 per cent in patients with one of these complications, and 57 per cent in patients with two or more complications.

A good example of what happens when prognostic distinctions are ignored occurred during Dwight Eisenhower's second presidential campaign, in 1956, after his first myocardial infarction. There was a profound division of opinion among cardiologists, one group foreseeing no serious consequences and the other maintaining that he probably would not survive his next term in office because of the low over-all 5-year survival rate after myocardial infarction. The fundamental difference in these two prognostic approaches depended on whether the clinicians used general statistics for "myocardial infarction" — based on a combination of all types of infarction — or whether they used scientific clinical judgment in considering the prognostic nuances for an individual patient who had had no previous infarctions and whose acute episode had been uncomplicated.

The same problem applies in estimating the outcome for patients with rheumatic fever. Children with this disease, but with no sign of cardiac murmurs, almost invariably remain free of rheumatic heart disease. The likelihood of residual heart disease is greater when significant murmurs have appeared during the acute attack and is particularly high when the murmurs are accompanied by significant cardiac enlargement and congestive heart-failure. Yet many reports of treatment for rheumatic fever have failed to distinguish these prognostic differences among the patients.

'Staging' Cancer

Similarly, in data on the treatment of cancer, we find much confusion due to a lack of scientific precision. The traditional way of classifying (or "staging") patients with cancer is to use stage one for a localized cancer; stage two for one that has spread to regional lymph nodes; and stage three for cancers that have disseminated more widely. This staging provides a prognostic gradient, since patients with stage one cancer have better survival rates than those with stage two cancer, who in turn have better rates than those with stage three cancer. Nevertheless, within each of these three anatomic stages, additional prognostic gradients, manifested by the patient's symptoms, are generally overlooked because they are not classified and subjected to statistical analysis.

Another example of misleading therapeutic statistics occurs in the treatment of peptic ulcer. These ulcers have been treated in diverse ways for decades and new surgical approaches are introduced regularly, but choice of an optimal therapeutic procedure remains uncertain because all the patients are usually lumped together under "peptic ulcer" without regard to such pretherapeutic — and prognostically significant — distinctions as bleeding, obstruction, and duration and severity of refractoriness to medical therapy.

Beyond the clinical distinctions just cited, many other important features of patients are regularly ignored in therapeutic statistics. One such feature is comorbidity: the other associated ailments that coexist with the main one under treatment. For example, many reports of treatment for "coronary artery disease" fail to denote the many patients who also had diabetes mellitus, hypertension, gout, or other comorbid ailments. When coexisting heart disease is used as the reason for denying surgery to a patient with an anatomically localized cancer or when the patient refuses an offered operation, it should be apparent that the patient, rather than the cancer, is "inoperable." Nevertheless, different kinds of patients and cancers are lumped together in reports of treatment for "inoperable" cancer.

Another shortcoming of clinical statistics is the omission of the concept of chronometry in therapeutic reports. In the treatment of coronary artery disease, for example, there is an enormous difference between a patient who has had angina pectoris for 14 years and one who has had it for 14 days. Yet in the statistical reports of therapy for angina pectoris, these two patients are lumped together indiscriminately.

Because of an overemphasis on "hard" data and dimensional measurements, clinicians have failed to develop the intellectual rigor in observation, classification, and specification of criteria that would harden the critically important "soft" data of clinical medicine. With appropriate tactics to provide scientific validity, the categories established for these "soft" data would become measurements far more useful, effective, and meaningful than the precise but often irrelevant dimensional substitutions that now dominate medical statistics.

In assessing a patient's clinical progress, we often look at such "hard" data as serum cholesterol or alkaline phosphatase, which may not tell us what we really want to know. We might like to know, for example, whether the patient feels better or worse. Did he walk to the clinic in a sprightly manner or was he brought there by ambulance? Is he comfortable in his daily life or is he constantly nauseated? Is he vibrantly alive or is he miserably vegetating?

A New Role For Clinicians

Since statistical data form the roadbed on which medicine must progress, the statistical methods must be improved and not rejected merely because they have been clinically naive. For the subtle interplay between patient and clinician and for the many individual characteristics that are obscured in a general group or abandoned in an inappropriate measurement, we need to develop new types of statistical "units" and "scales." To form this new statistical language, the clinician can get help from statisticians, but he should not rely on them exclusively. The clinician is familiar with the questions; it is his job to get the answers.

Books

INTIMATE BEHAVIOR by **Desmond Morris,** Random House, New York, Price, $6.95.

> *'Tis the human touch in this world that*
> *counts,*
> *The touch of your hand and mine**

"Something special happens when two people touch one another physically and it is this something that I have set out to study." Thus in his introduction Desmond Morris, zoologist and successful author, ("The Naked Ape" and "The Human Zoo") informs the reader that this book deals with the subject of physical contact between individuals of the human race. In the first chapter the author establishes the relationship of fetal-maternal and infant-maternal contacts to subsequent human physical encounters. Any of these examples taken out of context may be overstated; however, it is difficult to argue with the contention that early infant experiences have some bearing on subsequent life relationships.

In the remainder of the book Morris outlines human relationships from the standpoint of sexual intimacy, social intimacy, and substitute intimacy. The author's oversimplification of the subject may be justified since brevity will retain reader interest and help convey the important message about physical contact (or the lack of physical contact) in our current-day society.

This volume makes for easy reading, with a variety of interesting gimmicks offered by the author. He must be putting us on when he suggests that the female navel has evolved over the past century from an oval slit to a vertical slit so that it can have an important role as an erotic signaling device. The substantiation of this allegation by reviewing paintings and sculpture of the past centuries and photographs in this century is not scientifically sound. Since the navels from previous years are not available for evaluation, more subtle means of detecting umbilical signals will have to be developed.

At times Morris appears overextended in making his point, and when dealing with medical subjects he frequently is on shaky ground. Although the need for physical contact may occasionally prompt the neurotic patient's desire to visit the doctor, other complex motivations are involved. The author's suggestion that disease-prone patients develop influenza during an epidemic because of their need for physical intimacy has some medical support. However, this hypothesis ignores the importance of systemic and local specific immunity.

It is probable that Desmond Morris and his publishers will be accused of *sexsationalism* for promotion and profit. Even if true, this charge should not detract from the extreme importance of the message in this volume. The need to communicate is not recognized by many people and even when recognized not fulfilled because of shyness or ignorance. Morris tells us how, when, and where to utilize intimate contact and makes the telling concise and amusing.

The primary physician is confronted daily by patients who are lonely and in need of personal contact. He should be enlightened on this subject so he might recognize this need and give appropriate advice. This book is interesting reading for the novice and the expert.

William J. Holloway, M.D.

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THE EDUCATION OF A DOCTOR, by **John McNab,** Simon & Schuster, New York, 1971.

Samuel Pepys kept one and so did Anne Frank, and now into this elite company of diarists pops John McNab, a pseudonym for a third-year medical student. If you read and make it through this book, you will understand why he chose to remain anonymous. As Dorothy Parker once quipped, he knows everything about writing (and medicine) from A to B.

Mr. McNab's offering to the Muses is a pastiche in diary form of his first year of clinical clerkship. It's a boring recital full of medical fallacies that could have been remedied if the author had opened any standard medical reference. (Did you know that carcinoma of the colon was the most common malignancy in both males and females; or that "heart surgeons get rich off steel workers" who have "worked their hearts off in a steel mill"?)

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* *The Human Touch* by Spencer Free.

Perhaps the most disturbing thing about this diary is its quasi-intellectualism. Mr. McNab takes great pleasure and goes to absurd lengths to let us in on the fact that he knows who and what Lawrence Durrell and Leopold Bloom are. Yes, he has passed modern literature, but his discussion of his patients and their physical ills is flippant and lacks any of the humanism of the writers that are supposedly dear to him.

Easily the most snide and ill-based remark in the book is Mr. McNab's statement that "It is unusual to meet someone in white who cares about books." If you do care about books, avoid this one.

William Taylor, M.D.

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THE MERCK MANUAL, edited by David N. Holvey, M.D., Merck Sharp & Dohme Research Laboratories, Rahway, N. J., Twelfth Edition, 1972. Price $8.00.

When I started into private practice, I received three pieces of advice from colleagues who had preceded me from residency into the outside world. The first was to stock my doctor's bag with a hardware store-type flashlight instead of relying on a penlight. The second was to include a ball point pen (Yes, Virginia; we often still used ink pens, i-n-k) in my house-call (that's h-o-u-s-e-c-a-l-l) bag so as to avoid the embarrassment of having a dried-out pen from long hours of its having been locked in a broiling car trunk. The third was to stash a Merck Manual somewhere in the office where I could quickly refer to it for useful prescriptions without giving myself away to patients. I found all three pieces of advice extremely useful.

Comparison of my first Merck Manual (eighth edition of 1950) with the newest twelfth edition just recently off the press reveals the new one to contain 1964 pages instead of 1592, and to be a half inch wider and longer. For example, the Z index has been enlarged from a mere *zona* (a synonym for shingles, in case you don't, as I didn't, know the word) to include zinc gelatin bandage, zinc poisoning, *Zollinger-Ellinson syndrome*, *Zonules of Zinn*, and *zoonoses*. What Zonules of Zinn, however, are I still do not know, for there is no figure referring to them on page 933 as alleged in the index. Whether errors like this are common, I have not further checked.

I am sure that this is a useful book for many doctors, particularly to answer questions in some field of medicine outside one's own domain. Instant dermatologist, in other words. Also: types of metabolic blocks in congenital adrenal hyperplasia, differential diagnosis of aldosteronism, characteristics of the hyperlipoproteinemias, and LDH isoenzyme patterns in disease, as well as old standbys such as differential diagnosis of diabetic coma from insulin shock, signs of pregnancy, etc.

The section entitled *Liver and Biliary* in my old friend has been refined to *Hepatic and Biliary Disorders*. The section on *Venereal Disease* has been shortened, although the importance of the diseases and their recent resurgence is emphasized; the dosage for arsenicals no longer appears.

Anyone interested in evaluating the extent of the change in the medical content of our everyday life within twenty years need only compare these two editions. Those who are more pragmatically interested solely in having at their fingertips an amazingly compact but comprehensive compendium of most of everyday medicine will spend their time with just the new edition. Of course, it is already out of date: smallpox vaccination is no longer recommended as a routine for any US age group. But the price is right, and I have vowed after reviewing the twelfth to discard and replenish with each subsequent edition.

Incidentally, this book is the favorite desk reference of numerous scientists of a certain large, local industry. Until their professional reputations are truly secure, doctors practicing in our particular community can expect to be checked pre- and post-visit against the recommendations in the Merck Manual.

Bernadine Z. Paulshock, M.D.

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THE SKY IS FALLING by Clifford C. Cawley, Mara Books, Los Angeles, California, 1971. Price $5.00.

In this novelette, Clifford Cawley attacks a difficult topic — the population explosion. Obviously a well-read man, Cawley brings in everything and everybody from all the major and minor churches to Tolstoi to the Roman Legions. But at all times, it is light and amusing. The reader, at moments, wonders if his protagonist Johnny Moore isn't a bit mad, let loose in a city of lunatics.

Johnny Moore's mental wanderings on the problems of too much procreation cover the period of just one working day, at each end of which is a commuter-train ride with an accidental friend, a Jehovah's Witness. These commuting moments make up perhaps the funniest dialogue in the story.

In the end did he solve the problem as he thought? And whither and why the handcuffs?

Harriet F. Durham

* * *

A PRIMER OF CLINICAL DIAGNOSIS, by William B. Buckingham, M.D., Marshall Sparberg, M.D., and Martin Bradfonbrener, M.D. Illustrated. Harper & Row, New York, 1971. Price $12.75.

Why another book on physical diagnosis when there are so many? Because the authors discovered that the new curriculum for medical students is presenting them as clinical teachers with students who have not already completed their courses on physiology and pathology. The book therefore includes a necessary modicum of the latter: for example, the chapter on the cardiovascular system has a diagram of atrial pressure curves, etc.

The text and the explanations are clear throughout. As with most books of this type, some of the illustrations give pause. Why include a picture of a nipple with its expressed drop of serosanguinous material; surely words alone would have sufficed for that one? *Peau d'orange*, on the other hand is better explained by illustration, and the one presented is excellent. But black and white photographs of the fundus are in my opinion essentially useless.

The authors won me early with this paragraph in the first chapter:

> *Water hammer pulse.* This was once a readily recognized descriptive term, but the replacement of the water hammer with the pile driver in the heavy construction industry has made it necessary to describe the water hammer. The hydraulic hammer was used to drive large piles into the ground and worked by raising a heavy hammer head by means of a hydraulic jack. The heavy hammer was then suddenly released by a trigger mechanism and the hammer fell rapidly onto the pile, driving it into the ground. Thus a water hammer pulse rises rapidly to a high peak and then falls off rapidly. This might be called the peaked pulse or the unsustained pulse.

I also appreciate their title, *A Primer of Clinical Diagnosis*, not, you will note, a book of physical diagnosis, but "a primer devoted to the elementary principles of diagnosis — the physical examination and the *clinical history*" (italics mine).

The last chapter is called *Achieving a Diagnosis*. "A diagnosis is no better or worse than the facts upon which it is based. If knowledge of all diseases were complete and perfect, then every physician could be expected to produce the correct and complete diagnosis for each patient. In the overall view, knowledge of disease is fragmentary and blurred, and diagnostic acumen will vary accordingly."

The authors then proceed to classify diagnosis into *disease entities*, ("When knowledge of a disease entity is rather profound, it is possible to make a diagnosis of it. This knowledge includes the physical manifestations, laboratory findings, physiologic expressions, and pathological picture of the disease. Something should be known about the causative agents, the means of prevention, and the rational therapy that is usually available. The diagnosis of this type of entity comes close to being complete."); *syndromes*, ("The term refers to the clinical expressions of a disease in which knowledge is deficient in some significant way, especially regarding pathology and etiology. The term can be used to describe clinical situations in which the relationship to other diseases may be disputed or otherwise obscured."); *glorified symptoms*, ("Unfortunately, too many of our diagnoses are little more than glorified symptoms or symptom complexes. This result is due to the paucity of knowledge of disease and not to intrinsic diagnostic asthenia."); and *eponyms* ("At the bottom of the scale of diagnoses are those described by men's names. The dictum is: 'Eponyms are to be everywhere avoided'.") An explanation of Lawrence Weed's problem-oriented method would have fit in nicely here.

Will you go along with the very last sentence? "On the basis of soundly elicited symptoms, accurately observed signs, and profoundly constructed diagnostic hypotheses which have been proved by repeated observations and appropriate laboratory procedures, the good clinician cannot fail to achieve the correct diagnosis."

We cannot, and consider this an unwarranted delusion of the young. Nevertheless, this is a very good book.

Bernadine Z. Paulshock, M.D.

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WHO'S CALLING, PLEASE?

A surgeon (not from Delaware) was recently forced to entrust his baby sitting to a kindly neighbor whose gentleness and likeability far exceed her conventional English.

When he returned, he was informed there had been one telephone caller only, most insistent, who called three times, leaving his name only which the sitter proudly presented: Mr. Vend E. Spektrum, an unusual name and not one familiar to the surgeon.

After persistent review of the situation and consultation with the answering service, the mystery caller was identified.

"When do you expect him?" turned out to be the full English translation.

Editorials

A.I.D.'S EFFECT ON NEW CASTLE COUNTY HOSPITAL BEDS

A report certainly is due the Medical Society in the State on the status of A.I.D. and the impact their beds would have if they build.

The Health Planning Council has projected acute care bed need through the planning year of 1980 to be 1,561 beds. I offer the following table and will explain it in more detail.

	1972 Present Capacity	1975 Planned Capacity	1980 Future Capacity
W.M.C.	1,022	1,022	1,022
St. Francis	181	300	400
Riverside	100	100	168
A.I.D.	—	150	150
	1,303	1,572	1,740

The Wilmington Medical Center plans to expand services to I-95 with little or no increase in the number of beds allocated to them. Their plans call for phasing out older facilities and beds as new facilities and beds are built. Riverside also has the ability to add an additional 68 beds in their shelled-in top floor, when and if they are needed. You will also notice that St. Francis is planning an additional 100 beds in their Phase 2 plans, which will bring their hospital to a 400-bed capacity.

These figures speak for themselves, and if A.I.D. is allowed to build the additional beds, we will have an excess of 179 acute care beds in the area of New Castle County, as evidenced by this table:

Need — 1980	1,561 Beds
Planned — 1980	1,740 Beds
	179 Excess Beds

For this reason, the Health Planning Council recommended to the New Castle County Planning Board that no short-term, acute hospital facility be built in New Castle County east of Brandywine Creek because of lack of need. The Council also recommended that no short-term, acute hospital be built in New Castle County because of the adverse effect such hospital would have upon (a) quality of health care and (b) the financial position of existing non-profit hospitals.

The building of yet another hospital in New Castle County will add another unit in the multiplicity of sites of short-term, acute hospitals in the area, thereby further compounding the problem of scarcity of physicians, professionals, and paraprofessional help.

Our comprehensive plan for facilities in New Castle County calls for short-term, acute hospitals to be strategically located, few in number, and each of sufficient size to permit efficient use of physicians' time and to permit concentration of specialists. Current planning looks to the ultimate goal of combining the Wilmington Medical Center into two sites, one at I-95 and one at the Delaware Division, reducing the total County hospital sites to four, while simultaneously achieving appropriate geographic distribution. To build A.I.D. hospital at yet another site would be working in the opposite direction.

The plans for St. Francis and Wilmington Medical Center and the expansion of Riverside call for major improvement of operating efficiency through improved layout resulting from both alteration and new construction. The addition of A.I.D.'s 150 beds would withdraw a significant patient load from existing hospitals and make it financially more difficult to convert them to more efficient design. One thing is certain: it would surely delay the rebuilding of the present hospitals and set back the day when better design would permit delivery of better health care through improved efficiency.

Another adverse effect these beds would have has to do with out-patient clinics. These clinics operate at a loss, owing to the high percentage of non-paying patients. The losses in the clinics would be much greater were it not for the free services of physicians who work in the clinics in return for staff privileges. It is hard to see how a sizeable group of physicians could concentrate their paying practices in a proprietary hospital without affecting the operation of the out-patient clinics, which are so important to the patterns of practice in New Castle County in the delivery of health care.

In summary, then, it is believed that a new proprietary hospital would adversely affect the quality of health care (a) by adding another site and thus reducing physicians' efficiency and scattering specialists; (b) by creating financial problems and thus delaying improvement of existing hospital efficiency through construction; and (c) by weakening the out-patient clinics in non-profit hospitals.

The New Castle County Council has as yet not ruled on A.I.D.'s zoning request, and we have no idea when this ruling will take place.

If we are to have a well-coordinated health delivery system in the State of Delaware, and especially in New Castle County, those responsible for the delivery of such care must adhere to the planning process. To date, I can state that all providers of health care have adhered to this process, with the exception of A.I.D., and the Health Planning Council has done everything possible to inform all concerned that this hospital is not needed.

Clifford T. Foster
Executive Director
Health Planning Council, Inc.

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ON REINSTATEMENT OF MANNERS

What ever happened to "them good ole days" when men were men and doctors were dignified, courteous and respected? We can't do very much about the less-than-men-like men that are so prevalent now, but we do have some control over the physician's manners, one to the other.

Our is not the simplest job among the professions. We are under great pressures from many sides. We should have the common sense to avoid the internal strife or at least to employ those amenities that add a touch of smile or warmth to the heavy load we carry. We are each other's keeper of courtesy. The laity will surely not treat us with respect if we cannot respect each other.

High upon the list of manners that should be reinstated is the finesse of telephone etiquette. How many times have you been called from a patient's side or from some other important task to answer the phone, only to have the caller say, "Dr. Twiddlefinger would like to speak with you. Hold on please." Then while you count the nails in the wall or do some other equally useless doodling, you hold a silent phone while the physician who called you takes his sweet time getting to the phone. "Didn't he call me?" you ask yourself. "Why should I be the one to wait?" The caller is able to finish his task because you were kind enough to wait for him. The implication is obvious. He is saying to you loud and clear, "My time is more important than your time."

The problem writer is most distressing to his colleagues. The only excuse for putting pen to paper is to convey an idea, or a message. The so-called "writer" who makes a bunch of illegible chicken scratches on paper may think he is demonstrating his importance or is advertising the great press of his professional affairs, but to those who are forced to decipher the jibberish, he demonstrates only his bad manners. No one is so busy that he can't take time to write legibly. No one is so important that you and I must spend our time in what is frequently a useless exercise in interpretation.

Matching in rudeness is the consultation request that we write to Dr. Schmaltz without a word of information on the consultation sheet and indeed, frequently, without a note of any type to be found on the chart. We are asking Dr. Schmaltz to do a complete history and physical examination, and, if he finds anything wrong, within his sphere of expertise, to submit an opinion about it. If the patient is sick enough to be seen by a consultant, the least we can do is offer that consultant enough information to render a decision intelligently.

But then, Dr. Consultant is not always the most courteous soul. He may see the patient, do what is required, and never leave a note on the chart. How rude!

Don't you just love the professional letter to you that is not signed by the physician but is initialed by the typist? Or the one that has no signature, but only a formal, rubber-stamped statement to the effect that "this letter was dictated but not proofread"? Does the sender think so little of his own thoughts that he is not willing to read the missive to be sure they were properly recorded? Or does he have so little respect for the physician to whom he is writing that he doesn't care if the proper thoughts are being communicated?

What manner of men are we who have forgotten those simple manners that lighten our work burden? It takes no more time to be polite than it does to be rude. And the responses to politeness are so much easier to live with.

C. I. G.

THE PRINTERY

It has only recently been our happy privilege to visit Mr. Truitt's printery in Linwood, Pa. The visit was a fascinating experience, if a somewhat chastening one. The number of operations it requires to move from typed copy to bound and delivered *Journal* is surprising, and the intricacy of the machinery a sobering experience to one whose most intimate machine contact is usually an electric can opener.

Mr. Truitt's printing equipment is in a building on the same lot as his home. The *Journal* pages are collated and assembled in his living room by his wife and a few of the neighborhood ladies. It takes about 20 days of the month to print and assemble each one of our issues.

Please read every word in this issue. Mr. Truitt works very hard.

B. Z. P.

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ONWARD AND UPWARD

Latest information from the American Hospital Association states that the cost of providing care for one hospital day is now up to $81.01, a 15.7 per cent increase over the previous year.

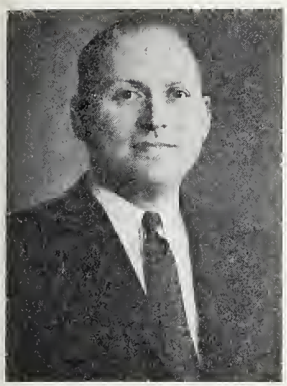
The gross national product of hospitalization is $19.6 billion — up $3.0 billion from the year 1969.

The ratio of hospital employees to patients is at an all time high of 292 per 100 patients.

The 1970 occupancy rate showed a drop from 78.8 per cent (in 1969) to 78 per cent, and the average length of stay decreased one tenth of a day from 8.3 to 8.2 days.

Outpatient visits increased 11.1 per cent.

New York State Journal of Medicine, August 15, 1971



President's Page

INVOLVEMENT AND POLITICS

Being accustomed to making decisions on a daily basis and having the courage to carry out these decisions, physicians are well suited to enter the field of politics. I am not referring to partisan politics nor to political parties; I am referring to *involvement and participation in politics* in its broadest sense in the decision-making practices of our government at all levels. Our Republic rests its power in a body of citizens entitled to vote and choose representatives. Elections are won by votes, not money, and votes are won by hard work at the grass roots level. This is a crucial election year, and civic and community-oriented energies of physicians in political activities are required. A personal and economic sacrifice, great as it may be when the time arises, is encouraged for involvement of physicians of Delaware.

A *Political Action Committee* of the Medical Society of Delaware with Joseph A. Glick, M.D., Chairman, has been formed. This reorganized and revitalized committee needs active members to educate physicians politically, stimulate candidate support, give financial support to candidates, open channels of communication, and provide volunteers. The committee's activities are not designed to be liberal, conservative, or partisan. Election campaigns take months of activity. Our effectiveness must be by collective action and not by fragmented action. One criticism of modern medicine is basically the difficulty of the health care delivery system keeping pace with technological and scientific advances and the hopes and demands for services. The provision of medical care is not as simple as getting the patient to a doctor; government-supervised programs alone are not the best solution to problems. There are only a few non-physicians who have knowledge about the delivery of health care comparable to that of the physicians, and the supervision of the delivery system by one who has not practiced medicine is undesirable. Nationally there is great attention to costs and reorganization of the delivery systems along with consideration of catastrophic health legislation, peer review, and some kind of national health insurance. With our knowledge and concerns we must be involved with political action.

Take up the gauntlet and exert efforts effectively in areas where physicians have knowledge and training. These include actions in 1) controlling air pollution, water pollution, drug abuse, violent crimes, highway slaughter, overpopulation, destruction of our environment; 2) improving nutrition, occupational safety, the supply of health manpower; 3) stopping exposure of the public to cults practicing medicine; 4) designing models of systems of payment and delivery of health care; and 5) influencing the composition of the next Delaware General Assembly.

H. M. Baganz

In Brief

Kent Cancer Society Elects

The Kent County Unit of the American Cancer Society announces the election of the following officers: Harold Laggner, M.D., president; Rafael A. Zaragoza, M.D., vice president.

The following chairmen were also named: Maynard H. Mires, Jr., M.D., professional education, and Lawrence M. Baker, M.D., lay service.

Heart Association Names Directors

William E. Miller, M.D., Richard H. Morgan, M.D., and William V. Whitehorn, M.D., were appointed to the Board of Directors of the Delaware Heart Association at the 23rd Annual Meeting held this month.

Antibiotic Monograph

A new monograph on *Clinical Antibiotic Selection* by William J. Holloway, M.D., Director, Infectious Disease Research Laboratory, Wilmington Medical Center, and William Taylor, M.D., Chief Resident, Department of Medicine, Wilmington Medical Center, will soon be published by Futura Publishing Company Inc., 295 Main Street, Mount Kisco, New York, 10549.

Speakers on "Ask the Doctor"

Speakers for July 1972 on the Tuesday radio program (11:05 a.m., WDEL) produced by the Medical Society of Delaware are: July 4, Carl Opderbeck, M.D., *Population Control;* July 11, William Renzulli, M.D., *Antibiotics and the Common Cold;* July 18, Russell Labowitz, M.D., *Arthritis;* July 25, Carl Glassman, M.D., *Cancer of the Breast.*

Award for Best Paper of '72

Drs. Roger B. Thomas, Jr. and Herbert Heym shared the first annual award for the best paper by a house officer accepted by or published in the *Delaware Medical Journal.* Their prizes, a check to each for $100, were awarded by Dr. William Holloway at the interns and residents dinner of the Wilmington Medical Center this month. A similar award of $200 will be offered in 1973 for the best paper by a medical student, intern, resident, or house physician working in any Delaware hospital. The '73 competition is now open and will close on April 1, '73. All papers accepted for publication or published during this period will automatically be considered for the award. The winning papers appeared in the May 1972 *Journal.*

Mrs. Melita Phillips Retires

Mrs. Melita Phillips, who has for 13 years been Assistant Editor of the *Delaware Medical Journal*, has recently retired. To Mrs. Phillips belongs the credit for periodically updating the Journal's face and decorations. Under her tender and talented ministration, the *Journal* won top honors in format design in 1961. Mrs. Phillips, who is well known as a sculptor and artist in various media, will now have, she hopes, more time to devote herself to her artistic pursuits. She will remain a consultant to the *Journal.*

Convocation Citation

At the annual convocation of the American College of Physicians held in Atlantic City, April 17, a Mastership award was conferred upon Harry F. Dowling, M.D. Dr. Dowling is a Consultant for Medical Affairs, University of Delaware.

The citation reads as follows: "A native of Washington, D.C., Doctor Dowling attended Franklin and Marshall College where he received his A.B. degree in 1927, and George Washington University from which he received his M.D. degree in 1931. In both schools he graduated not only with honors, but also was elected to Phi Beta Kappa and Alpha Omega Alpha. In 1953 he was awarded a Doctor of Science degree from Franklin and Marshall College. His early graduate experience was in Baltimore and Boston. Following internship at the Baltimore City Hospitals, he was an Assistant in Medicine at Johns Hopkins for one year and held a fellowship at Harvard for another year. In 1934 he was appointed clinical instructor in Medicine at George Washington University and in 1940 Clinical Professor of Medicine and Chief of the Medical Division of the Gallinger Municipal Hospital. In 1950 he became Professor and Head of the Department of Preventive Medicine at the University of Illinois in Chicago, and in the next year Chairman of the Department of Medicine, a position he held for eighteen years. Throughout his academic career, he has been interested in infections and has made significant and extensive laboratory and clinical observations. His four books are: *The Acute Bacterial Diseases*, *Tetracycline*, *That the Patient Might Know*, and *Medicines for Man.* He is a contributor to eleven other books and has written more than 250 articles on infectious diseases, sulfonamides, antibiotics, the use and regulation of drugs, human experimentation, and medical education. He has been called to serve upon numerous national committees: Subcommittee on Infectious Diseases of the National Research Council, the Commission on Acute Respiratory Diseases of the Armed Forces Epidemiological Board, the U.S. Pharmacopeia Committee on Revision, the Board of Scientific Counselors of the National Institute of Allergy and Infectious Diseases, the National Advisory Allergy and Infectious Diseases Council of the USPHS, the Council on Drugs of the American Medical Association, the Medical Advisory Board of the Food and Drug Administration, to name only a few. For six years he has been a member of the Board of Trustees of the George Washington University. At present he is writing a book on the history of infectious diseases in the 20th century, and toward this end he was a visiting scholar of the National Library of Medicine in 1971. In addition to his Fellowship in the American College of Physicians, Doctor Dowling is a member of other distinguished societies in medicine. For his contributions, wise counsel, and for his significant accomplishments in medicine, the Board of Regents is pleased to bestow upon Doctor Dowling the title of Master of the American College of Physicians."

Pertussis Immunization Urged

The Delaware Division of Physical Health urges Delaware physicians to immunize their patients against pertussis and to report any suspected cases. The treatment of choice for susceptible household contacts to pertussis is the antibiotic, erythromycin. Physicians may obtain erythromycin for such treatment on an individual basis at any of the Division's County Health Units, free for use with patients who cannot afford to purchase it.

Recent studies, both on the national and state levels, indicate that immunization levels are low or declining among preschool and grade school children. Approximately three of every ten children entering school in

Delaware are still susceptible to diseases for which we have inexpensive, readily available prevention. The lowest levels of immunization are found in the less affluent communities. It is essential that physicians and public health personnel cooperate to raise the level of childhood immunizations in Delaware.

Vacutainer Tubes Will Be Mailed

The Division of Physical Health is reinstituting the service of mailing specimen containers for serologies to physicians who request them. The service had been discontinued last year because of budget limitations, and physicians were asked to pick up the Vacutainer mailing tubes at Division Health Units or Service Centers. The containers will still be available at the Health Units and major Service Centers, but physicians may also request them through the mail. Requests may be mailed or telephoned to the Laboratory, Division of Physical Health, Cooper Memorial Building, Dover, 19901; telephone 678-4724.

CLINICAL NOTICES AND MEETINGS

Anesthesiology Seminar

The 1972 Annual Postgraduate Seminar in Anesthesiology will be held at the UCLA School of Medicine, Los Angeles, August 4-6, 1972.

American Health Congress

The first annual American Health Congress will be held at McCormick Place, Chicago, August 7-10, 1972. Ideal Health Care Delivery will be the subject of the meeting. For additional information contact (Mrs.) Judith Shaw, American Health Congress, 840 North Lake Shore Drive, Chicago, Illinois, 60611.

AAFP Silver Anniversary

The American Academy of Family Physicians will celebrate its Silver Anniversary Year with its Annual Convention on September 25-28, 1972, in New York City. For additional information write The American Academy of Family Physicians, Volker Boulevard at Brookside, Kansas City, Missouri, 64112. Registration Fee: Members — $15.00, Non-Members — $25.00.

Cancer Chemotherapy Conference

The 10th Annual Cancer Chemotherapy Conference will be held at the University of Wisconsin, Madison, on September 6-8. For information contact G. Ramirez, M.D., 714C University Hospitals, Madison, Wisconsin, 53706.

Ophthalmology and Otolaryngology Annual Meeting

The American Academy of Ophthalmology and Otolaryngology will hold its annual meeting at the Convention Center in Dallas, Texas, on September 24-28, 1972. For further convention details write C. M. Kos, M.D., Executive Secretary-Treasurer, American Academy of Ophthalmology and Otolaryngology, 15 Second St., S.W., Rochester, Minn., 55901.

Institute for Organization Management

This continuing education program sponsored by the Chamber of Commerce of the United States will be presented at the University of Delaware on August 6-11, 1972. For additional information contact Institutes for Organization Management, U. S. Chamber of Commerce, 1615 "H" St., N. W., Washington, D. C., 20006.

Ruidoso Summer Clinic

The 15th Annual Ruidoso Summer Clinic will be held July 17-20, 1972. Morning sessions only will be held. For information contact Mr. Robert Reid, Executive Secretary, N.M. Chapter, AAGP, P. O. Box 456, Sunland Park, N.M., 88063.

Vienna Conference on Birth Defects

The Fourth International Conference on Birth Defects sponsored by The National Foundation-March of Dimes will be held at the "Hofburg Kongresszentrum," Vienna, Austria on September 2-8, 1973. For additional information write to International Medical Congress Ltd., c/o The National Foundation, 1275 Mamaroneck Avenue, White Plains, New York, 10605.

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CURRENT MANAGEMENT OF PEPTIC ULCER DISEASE

Part I

S. P. Bralow, M.D.

Physicians of ancient and medieval times were much concerned with disturbances of gastric digestion. Hippocrates described in detail a patient with gastric hemorrhage and recognized the relationship between tension and gastric symptoms. Celsus in 20 A.D. prescribed a bland diet and an ocean voyage for patients suffering with gastric complaints. The chronicity, the complications, the symptomatology of peptic ulcer disease were not really defined until the early 19th Century by Abercrombie and by Cruveilhier. Originally, physiologic studies of gastric secretion were made in patients with chronic gastric fistulas as described by Beaumont in 1833. Most studies have dealt with the relationship of acid and pepsin to the causation of peptic ulcers. The defensive role of mucous secretion and the reparative processes measured by mucosal cell kinetics have only recently interested investigators.

Innumerable investigators have failed to elucidate a specific cause and a definitive treatment of peptic ulcer. Much has been learned about the physiologic control of gastric secretion as well as the histopathology of the upper gastrointestinal tract but its relationship to the clinical condition has not been clearly defined. Theories about its causes have continued to increase. Most investigators accept the Schwartz dictum, "no acid, no ulcer," but it is unclear as to whether acid is playing a primary or secondary role. Factors other than acid and pepsin may be involved in the development of peptic ulcer. The formation of chronic peptic ulcer may be dependent upon the algebraic sum of two groups of forces acting on the gastrointestinal mucosa, one being defensive and the other aggressive. Peptic ulcer develops if the balance tips in favor of aggression.

Dr. Bralow is Professor of Medicine, Jefferson Medical College, Jefferson University and formerly Chief of Medicine, Jefferson Division, Philadelphia General Hospital, Philadelphia, Pennsylvania.

This paper was originally presented at the Milford Memorial Hospital as part of the Continuing Medical Education Seminars for Physicians, sponsored by the Delaware Institute of Medical Education and Research, the University of Delaware and the Medical Society of Delaware, May 18, 1971.

Genetic factors may help to explain the increased risk of peptic ulceration in certain individuals. Such a risk has been demonstrated in individuals with blood Group O phenotype. On the average, duodenal ulcer patients tend to have larger stomachs, greater parietal cell masses, and higher acid outputs than patients with gastric ulcer or control subjects. It is unknown whether these differences are genetically determined or are the result of the disease process itself. The influence of the central nervous system, vascular changes, endocrine inter-relationships (such as in the Zollinger-Ellison Syndrome), and possible constitutional factors of ulcer genesis suggest that peptic ulcer may be a manifestation of a systemic abnormality rather than a simple local disease. Many of these concepts need further critical evaluation before they can be accepted or rejected. The simple question "Why doesn't the stomach digest itself during life?" has evaded critical study since first asked by John Hunter in 1772. As early as the 19th Century, Claude Bernard theorized that a continuously renewable protective mucous barrier was capable of preventing digestion by blocking proteolytic activity on epithelial layers. Recent studies again are concentrating on this mucous barrier.

Increasing knowledge of the epidemiology of peptic ulcer has emphasized its worldwide distribution. The magnitude of the public health problem associated with peptic ulcer is significant. This disease was the 12th most frequent cause of absenteeism from work and 15th among the causes of death in the U S during 1965. It is estimated that 3.5 million persons are handicapped with this disease each year in the U S. In one year alone more than 100 million dollars are spent on antacid therapy. The total economic loss per year associated with peptic ulcer disease is greater than one billion dollars. Despite these problems peptic ulcer as a disease has not aroused the concern of the public. The peptic ulcer is considered to be a badge of economic and social success and is now the most caricatured disease in American humor. This public attitude may explain why a sum less than 1% of the total economic loss caused by this disease is spent on ulcer research.

Pathology

A peptic ulcer is a break in the mucosal continuity in that part of the gastrointestinal tract that is bathed by gastric or peptic juices. Generally, the term refers to a chronic gastric or duodenal ulcer but may include ulcers in the lower esophagus and marginal ulcers of the jejunum at the site of a gastroenterostomy. Acute ulcers also occur and are usually multiple in the stomach and single in the duodenum. Acute lesions are irregular in shape and are smaller than one cm in diameter. Acute ulcers have sharply defined and overhanging edges while the floor is rough and filled with necrotic material. They may penetrate to any depth, from the muscularis mucosae through to the serosa. Acute gastric ulcers occur in patients dying from severe infections. These terminal lesions are shallow and frequently multiple and bear no relationship to the chronic type of peptic ulceration. However, they may bleed and perforate as a terminal event. Acute ulcers and erosions of the stomach tend to heal rapidly. Since the mucosal cell turnover rate in the stomach is between three and five days, these lesions may be missed if the patients are not examined endoscopically in an early stage.

The most common location for chronic ulcers in the stomach is at the anterior surface of the lesser curvature of the body, at the angle between the body and the antrum. This location can be considered a junctional zone between the acid secreting mucosa of the body glands and the non-acid area of the antrum. The pre-pyloric or pyloric area is a site of ulceration in about 1/3 of the cases. Only occasionally do ulcerations occur on the greater curvature of the body and the fundus. In the duodenum, the most common site is the posterior wall of the first portion within 2-3 cm of the pylorus. A recent study of Oi et al, of the sites of ulceration suggested that peptic ulcers occur near boundaries of different types of mucosae as well as at points of intense kinetic muscular strain.

Chronic ulcers average 1-2 cm in diameter but may be as much as 6 cm. These lesions usually are round, punched out, with sloping and slightly undermined edges. The floor of the ulcer is usually clean and devoid of debris, and the base is composed of dense sclerotic fibers. As the ulceration advances through the mucosal wall, the adjacent tissue frequently adheres to gastric or duodenal wall. In chronic ulcers, four zones are clearly defined: exudation, necrosis, granulation, and cicatrization. The blood vessels may show fibrosis of the wall and thrombotic occlusion of the lumen. If the occlusion is not complete, massive hemorrhage may result from further progression of the ulcerating process. Occasionally, epithelial proliferation with downward growth may occur at the margins of a gastric ulcer thus displacing glandular tissue beneath the muscularis mucosae. In the past, such changes have been erroneously interpreted as malignant transformation.

The question of carcinomatous transformation of a previously benign, chronic ulceration has run the gamut of controversy. It is justifiable to consider a chronic ulcer as undergoing malignant degeneration if the four pathologic zones can be demonstrated and if definite evidence of cancer infiltration at the margin of the ulcer is present. Estimates, ranging from 1-20%, of chronic gastric ulcers becoming malignant have been reported. The present consensus is that benign chronic ulcers remain benign, and cancers with ulceration were malignant from the start. The problem is in distinguishing the benign from the malignant lesion. An error of 1-3% exists for this clinical differentiation. The site of the ulcers, or the size, has not been helpful in determining the risk of malignancy in the individual case. With the advent of improved radiologic, cytologic, and endoscopic techniques, this error in differentiation should become less than 1%.

Most chronic ulcers heal completely. The base of the ulcer becomes clean within four days and the mucosa has begun to grow in from the edges within ten days. The first cell type to appear after injury is the neck mucus cell, which is the most active mitotically. The average healing time for a chronic gastric ulcer is about 40 days.

Diagnosis

The symptoms associated with chronic ulcer disease may cover a wide range of patterns. A well walled off crater seen on x-ray may be associated with little pain or discomfort while a minimal ulceration that may not be visualized radiographically can be associated with severe, intractable pain. The pain frequently is described as burning or gnawing in character, and an observant patient can localize the distress to a small area in the epigastrium usually just below the xyphoid process. Tenderness elicited by palpation may be maximal to the right of the umbilicus in patients with duodenal ulcer and to the left upper quadrant in patients with gastric ulcer. A steady, severe pain radiating through to the back is suggestive of a posterior penetrating lesion with maximal tenderness of the dorsal spine from T-10 to T-12.

Typical ulcer distress is characterized by recurrent gnawing pain in the epigastrium one to two hours following meals. The pain in uncomplicated ulcers can be relieved within minutes by milk, antacids, or food. Occasionally, the pain awakens the patient between 2:00 and 3:00 A.M. This rhythmicity of pain continues for several days to weeks and then subsides spontaneously. In the temperate zones, the highest incidence of duodenal ulcer activity is from November to March. Seasonal variations have not been demonstrated for gastric ulcers.

Nausea and vomiting are uncommon in patients with an uncomplicated peptic ulcer. When it occurs, it is usually due to an obstruction of the outlet of the stomach either caused by edema or by cicatrization. Persistent nausea and vomiting, projectile in nature, can occur in pyloric channel ulcerations without characteristic ulcer type pain. Vomiting occurs without objective evidence of obstruction when the ulcer pain is severe, however. The clinical picture may be that of nervous vomiting. This mechanism may be due to a simple reflex disturbance induced by the ulcer. High gastric ulcers may also be associated with reflex pylorospasm. Occasionally patients with ulcer disease have excessive salivation and a “water brash” eructation.

Change in bowel function frequently accompanies peptic ulcer disease. It may be the symptom that brings the patient to the doctor. The ulcer may reflexly affect the motility of the bowel causing symptoms similar to the Irritable Bowel Syndrome. Constipation is a more frequent complaint than diarrhea, and the patients are often addicted to various laxatives. These alterations of bowel function may be aggravated by various medications such as anticholinergic drugs and antacids of aluminum hydroxide or calcium carbonate type. To avoid constipation, various combinations of magnesium have been added to these antacids. Several commercial antacids have as much as 60% milk of magnesium in their formula. This should be kept in mind when the patient is taking large doses of these antacids and then complains of diarrhea. Severe diarrhea may be the presenting complaint in patients with Zollinger-Ellison Syndrome.

Patients with uncomplicated peptic ulcer rarely lose weight. Their appetite remains normal and because of the food-ease pattern they tend to eat between meals. However, patients with chronic pyloric obstruction have significant weight loss. This weight loss may result from the nausea and vomiting as well as slow starvation due to poor gastric emptying.

Peptic ulcers in childhood are associated with atypical symptoms. Pain is poorly localized and may be accentuated by food. Usually, bleeding or perforation is the initial manifestation of ulcer disease in children. In children less than one year of age, ulcers are usually of the acute type while the typical chronic peptic ulcer predominates in older children.

Diagnostic Procedures

The diagnosis of peptic ulcer should not be made without confirmatory x-ray demonstration. The more proficient the radiologist becomes, the less frequently will the diagnosis of peptic ulcer be made by history alone. The radiologic appearance is important to rule out malignancy of the stomach and to define typical, uncomplicated lesions from those with poor prognosis. The concept of x-raying the individual only if the symptoms do not disappear on medical therapy is not justified. Even malignant lesions of the stomach respond temporarily to bland diet and antacids.

The typical benign ulcer of the stomach is an extraluminal projection of the contrast column while the malignant ulcer is usually an intraluminal collection within a mass. Before one can be certain of the relationship of the ulcer to the lumen, the ulcer should be demonstrated in full profile. This is difficult to do in lesions of the posterior wall of the antrum and the fundal areas. A sign of benignity is that of the "Hampton" sign, which is a radiolucent zone between the barium column in the lumen and the ulcer due to the overhanging edges of the benign lesion (Figure 1).

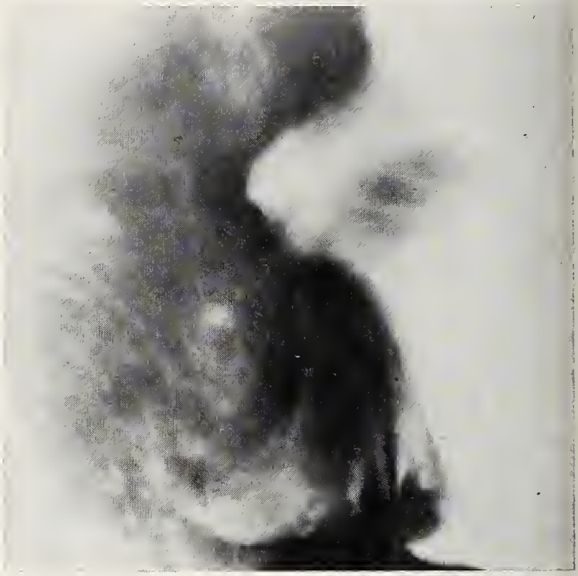

Figure 1: Gastric ulcer seen on profile with a radiolucent zone around the neck, Hampton's sign of benignity.

The "Carman" or "Meniscus" sign is a crescent shaped radiolucent zone caused by an ulcer in an intraluminal mass and is a sign of malignancy (Figure 2). Irregularity of the margins or asymmetry of the neck of the ulcer suggests malignancy. The mucosal folds should converge to the edge of the benign ulcer. Interrupted folds are highly suggestive of malignancy. Eccentricity of the ulcer within a mass lesion also suggests malignancy. Size alone cannot be used to differentiate a benign ulceration from a malignant one. Ul-

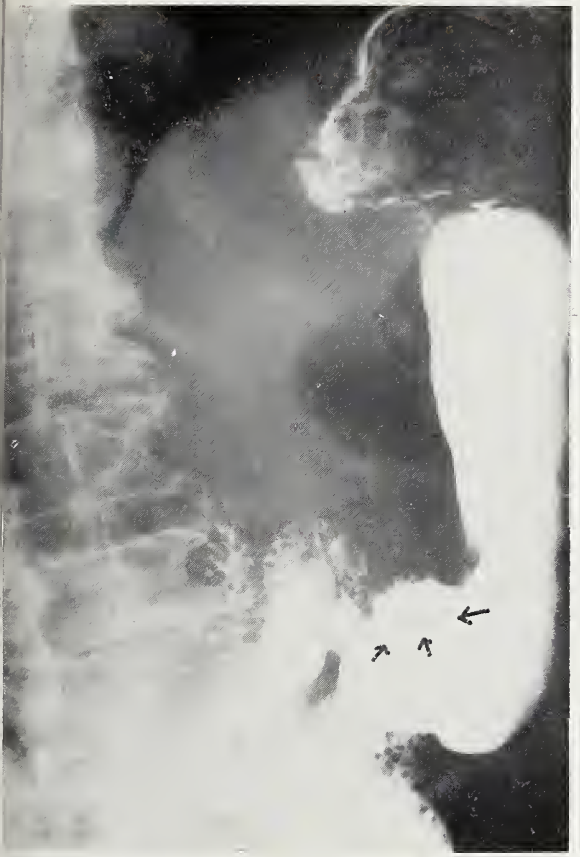

Figure 2: Gastric ulcer in a mass at the antrum, Carman's sign of malignancy.

cers below 2 cm in width are more apt to be benign and more than 90% of ulcers are less than 0.5 cm. Ulcers greater than 4 cm in diameter also are more frequently benign. Consequently, most malignancies are seen in lesions between 2 and 4 cm in diameter. The ratio between the diameter of the ulcer and its depth may be used for differentiation. In the malignant ulcer the diameter usually is less than its depth. The majority of gastric ulcers occur along the lesser curvature of the pars media just distal to the angle. Malignancy cannot be diagnosed simply on the location of the ulcer, however. Most carcinomas commonly occur in the antrum and prepyloric segments of the stomach. A deep incisura on the side opposite a crater is a sign of benignity.

The rate of healing has been used clinically as a criterion for benign ulceration. The average time for x-ray disappearance of a gastric ulceration is about 40 days, and the rate of healing is about 0.5 mm per day on the average. No correlation has been found between this healing time and the age of the patient, size of the crater, history of previous recurrences, or duration of symptoms. The ulceration of a malignancy may fill in, partially or completely, but not necessarily at the same rate. The average-sized benign ulcer should heal by 50% within three weeks and 100% within six weeks. Giant ulcers may take longer, but the progress of healing should be continuous. A residual, V-shaped indentation at the site of the ulceration may be difficult to evaluate as it may represent incomplete healing or an epithelialized scar. Gastroscopy may become necessary for a specific differentiation.

The most common location for a duodenal ulceration is about 1-2 cm distal to the pyloric canal on a posterior wall of the duodenum. Malignancy does not occur in this site. The ulceration may be small or large, deep or shallow, and may be associated with marked deformity of the contour of the duodenal bulb. Occasionally, giant duodenal ulcers may entirely replace the bulb and give the appearance of a normal bulb except that the shape is constant and no change in configuration occurs (Figure 3). To obtain the best x-ray demonstration of a duodenal ulcer, sufficient films of a filled bulb should be taken in various degrees of obliquity. In the supine

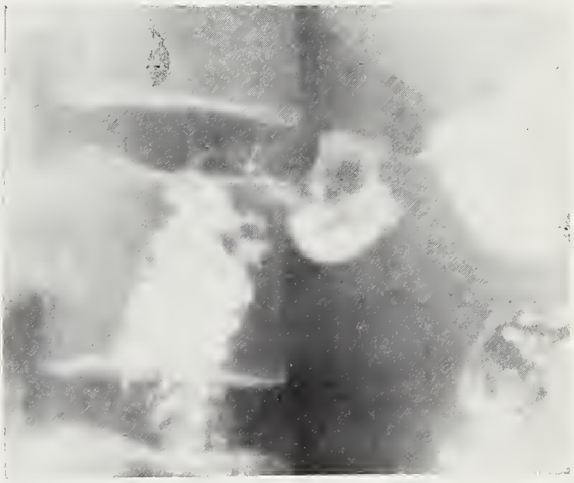

Figure 3: Giant duodenal ulcer replacing the entire duodenal bulb.

position, an air contrast study of the bulb is obtained which usually demonstrates a posterior wall lesion while in a prone position compression can demonstrate an anterior wall ulceration. Ulcer craters in the duodenum are demonstrated by radiological techniques in only 70-80% of cases. Marked deformity of the duodenal bulb may mask a relatively large crater, and this occurs often in patients with chronic recurrent disease (Figure 4). Ulcers may be missed if the cavity is filled with blood clots or detritus. In patients with large, flabby duodenal bulbs, tiny shallow ulcers can be missed. When the mucosal folds of the duodenum are prominent, collections between the folds may be misdiagnosed as craters. On careful examination, however, these barium collections are inconstant and ulcerations can be ruled out.

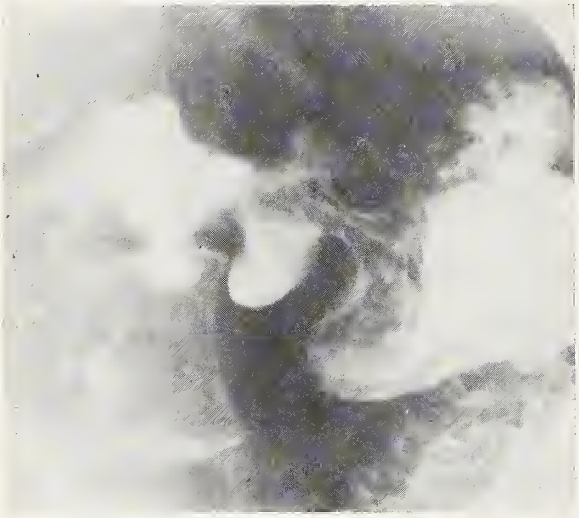

Figure 4: Marked duodenal deformity of the cloverleaf type with an active ulcer crater.

Gastroscopy

The popularity of gastroesophageal endoscopy has gone through several cycles. In early 1930, the advent of the Schindler flexi-rigid gastroscope led to overenthusiastic examinations for the diagnosis of gastritis, erosions, and malignancy of the stomach. Because of the inability to take direct biopsies of the mucosa and the failure to correlate mucosal changes as seen by the gastroscopist with eventual histologic specimens, gastroscopic diagnosis lost its popularity. Recently, new endoscopic instruments have been developed for objective interpretation of lesions of the stomach, esophagus, and duodenum by facilitating photography, definitive biopsy and cytology. Endoscopy should be considered a complement to x-ray. When both methods are utilized, the accuracy in reaching a correct diagnosis exceeds 90%. When one method is utilized without the other, the accuracy falls to 50-70%.

Gastric Analysis

The clinical usefulness of the analysis of gastric secretions is under debate. No completely acceptable method has been developed. Gastric secretory tests are employed usually to determine the rate of basal and maximal secretion, hopefully to help diagnose gastro-intestinal disease. Attempts have been made to correlate secretory levels with prognosis, and to select the best surgical procedure. However, there is marked overlap in secretory rates between duodenal ulcer disease with normal patients, and the test is not discriminatory enough for diagnosis, except in Zollinger-Ellison Syndrome. The ratio of basal secretion to maximal acid output, following histamine augmented stimulation, is frequently helpful in diagnosing Zollinger-Ellison Syndrome. Basal secretion is under continuous gastrin influence and should be 60% or more of the maximal histamine response in secretion. Exceptions have been reported because basal secretion may vary widely from one study to the next in the same individual. The rate of gastric acid secretion is not helpful in the diagnosis of malignancy. Achlorhydria, failure of the pH of the gastric juice to fall below 6 after maximal histamine stimulation, would tend to exclude the diagnosis of a benign peptic ulceration.

Medical Treatment

The primary purpose in the treatment of peptic ulcer is to allay pain, to relieve pylorospasm, and to promote healing. Therapy consists largely in the use of antacids and diets which have been empirically handed down for years. In an uncomplicated peptic ulcer, the relief of pain or pylorospasm is relatively easy. However, available controlled studies have not demonstrated improvement in the healing rates or decreases in the recurrence rates by any therapy. The need for very restrictive diets and strict therapeutic regimens may be unwarranted. Complete neutralization of gastric acid by therapeutic means is exceedingly difficult and perhaps unnecessary for healing. Ulcers heal even in the presence of moderate amounts of gastric acid. Sippy's concept that healing is improved by removing the disintegrating and digestive action of gastric juice, permitting nature to fill in the defect with granulation tissue and cicatrization, is the working hypothesis of the adherents of a strict regimen.

Diet

Although the rationale for a strict graduated diet in ulcer therapy may be questioned, a bland nutritious diet should be employed. Foods that stimulate gastric secretion and peristalsis should be avoided. Special diets used for peptic ulcer disease may not be avoiding foods that stimulate acid production, however. Most ulcer diets consist mainly of beef or protein meals of cheddar cheese, salmon, eggs, milk, meat, fish, chicken, all of which stimulate parietal cell secretion. To avoid parietal cell stimulation, food should contain carbohydrates, fat, fresh cooked fruits, white bread and butter, potatoes and other cooked vegetables. It appears that the essential part of an ulcer diet is the frequency of the meals, rather than the type of food. Pain relief is obtained faster when small quantities of food are given every one to two hours. Large meals may cause discomfort in patients during the acute phase of duodenal ulceration. Highly seasoned food, roughage, greasy or fried foods should be avoided. As soon as pain is diminished or disappears, the diet may be gradually liberalized to a normal one. The therapeutic value of large quantities of cream and milk has been questioned and has been implicated in the high incidence of atherosclerosis and coronary disease found in ulcer patients.

A controlled diet may be warranted when the rate of healing is used in the differential diagnosis between benign and malignant gastric ulcer. Frequent feedings, hourly or every other hour, 4-5 ounces of skimmed milk during the day and when necessary during the night are helpful to control pain. A bland diet should be continued for at least three weeks at which time the rate of healing can be assessed. There is no good clinical proof, however, that strict diets have changed the healing rate of gastric ulcer. We consider 50% healing within three weeks crucial before continuation of medical management. Complete healing for the average ulcer should take place within six weeks.

Antacids

Antacids are the mainstay of therapy although there is no evidence that the ideal antacid has been discovered. It should be palatable and non-irritating to the stomach. In the amounts used it should not produce systemic alkalosis. It should not interfere with digestion or motility. It should elevate the pH to at least 5 and thereby not only neutralize gastric acid but also inactivate pepsin. The level of neutralization should be maintained for long periods of time without acid rebound. Soluble antacids, ie, sodium bicarbonate, are very effective neutralizers of gastric acid but are capable of producing acid rebound, alkalosis, calcinosis, and azotemia with a clinical picture of pseudohyperparathyroidism. Bismuth subcarbonate has a demulcent action but has poor neutralization capacity and is constipating. Magnesium compounds are effective neutralizing agents but have a marked laxative effect. Calcium carbonate may add to the periods of neutralization but has to be avoided in people with renal calculi or who are dehydrated or have an electrolyte imbalance. Recently, calcium carbonate has been shown to cause an acid rebound phenomenon as well.

Aluminum hydroxide gels are the most popular antacids. They are non-absorbable and do not disturb electrolyte balance. They absorb pepsin as well as acid. However, the degree of neutralization is not as great nor as prolonged as with calcium carbonate. Neutralization can be prolonged beyond the average of 30 minutes by concomitant frequent feedings and anticholinergic drugs to delay emptying. These drugs tend to be constipating, and most of the commercially available products contain magnesium. Large doses, therefore, may produce diarrhea. The role of these antacids in the long-term management of peptic ulcer without symptoms is questioned, since the evidence that they will cut down recurrence rates is not convincing.

Anticholinergic Drugs

Since the control of basal gastric acidity is cephalic and mediated through the vagus nerves, agents attempting to block this pathway have been sought. Such agents have been shown to decrease the responsiveness of the parietal cells, to decrease the release of gastrin from the antrum, and to decrease gastric motility. These physiologic changes are thought to be conducive for ulcer healing. Individual patients demonstrate wide variations in tolerance to anticholinergic drugs. Some individuals are very sensitive to the drug and will develop blurring of vision, dryness of the mouth, and urinary retention with very small doses. Anticholinergic drugs may be most helpful at night to control nocturnal secretion. There is no evidence that the prolonged administration of anticholinergic drugs will accelerate the healing of ulcers nor decrease recurrences.

Other Treatments

Many other agents have been employed in the treatment of peptic ulcer disease. A mucopolysaccarride, amylopectin, appears to be capable of decreasing proteolytic activity in gastric juice when studied in vitro. It has received considerable attention recently as an agent in the control of peptic ulcer. Some studies suggest that this agent is capable of decreasing recurrence rates with or without the use of supplementary anticholinergic drugs. This has not been confirmed, however. X-ray therapy directed to the fundus of the stomach has been shown to inhibit gastric acid secretion for varying periods. More than 2,000 patients have been treated with suggestive evidence of increased healing rate and a decrease in recurrence rates. At present, this method is being restricted to patients who do not respond to routine therapy and are a poor risk for surgery. Gastric freezing has had periods of enthusiasm. Controlled studies have shown that its benefits were no greater than placebos. More recently carbenoxolone, a licorice glycoside with anti-inflammatory action, has been received enthusiastically in England for the treatment of gastric ulcer. It is felt that ulcers which do not heal with this glycoside within 30 days probably are malignant. The drug appears to stimulate the secretion of mucus which adheres to the gastric mucosa as a thick protective layer. It has no effect on gastric secretion. Unfortunately, it produces fluid retention and has an aldosterone-like action in elderly patients.

In summary, many agents produce relief of pain, but it is difficult to assess their effectiveness in diminishing relapse rates or improving the rate of healing. Patients with uncomplicated ulcers have a tendency to heal spontaneously. It does appear beneficial to restrict alcohol, coffee, and tobacco, as local mucosal injury may stimulate gastrin release. Ulcerogenic drugs such as anti-inflammatory agents, reserpine, adrenal steroids, and aspirin should be avoided if possible. Patients should be informed of the common causes of recurrences, such as, increased tension, infections, and severe dietary indiscretions. At the first sign of symptoms, they should be instructed to go back on frequent ulcer feedings.

ACKNOWLEDGMENT

X-rays obtained through the courtesy of Dr. M. Fisher, Philadelphia General Hospital.

This is part one of Dr. Bralow's paper: Current Management of Peptic Ulcer Disease. A second installment will appear in a subsequent issue.

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THE PROPHYLACTIC TREATMENT TUBERCULOSIS

Maynard H. Mires, M.D.
Charles H. Alexander

Recommendations for the regular supervision of all those taking the drug isoniazid (INH) have been included in the report of a special advisory committee convened by the Center for Disease Control in Atlanta.[1] This action followed the investigation of hepatitis cases occurring among participants in a program of tuberculosis prevention on Capitol Hill. Over a nine-month period a total of 2,321 persons took part in the Capitol Hill program in Washington because of the previous discovery of several cases of tuberculosis among foodhandlers in a cafeteria serving government employees. When 19 of those taking isoniazid developed clinical hepatitis, and two persons died, an investigation by CDC attempted to determine whether there was any correlation between these facts. Their review of data also included reports from state health departments of supposed isoniazid-induced hepatitis. In its final report the advisory committee, made up of specialists in liver disease, chest disease and epidemiology, *could not* definitely attribute the liver disease to INH prophylaxis. However, the group *did* caution against placing anyone on the drug unless there are provisions for carrying out the screening and monitoring procedures outlined later in this article.

The present program of INH preventive treatment is only part of the over-all effort in Delaware to eradicate tuberculosis. As we narrow down to fewer and fewer newly-reported active cases each year, actual eradication becomes more difficult and costly per case found. In 1970 Delaware reported only 105 new cases of active tuberculosis; twenty years ago we had 315 new cases. A new pattern has emerged: we see the most disease in the urban, non-white male over the age of 45. According to a recent study done by Dr. Barbara B. Rose,* the newly-reported tuberculosis case rate in Wilmington is more than

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Dr. Mires is Director, Bureau of Disease Control, Division of Physical Health, Department of Health and Social Services, State of Delaware, and Mr. Alexander is US Public Health Service Advisor to Delaware.

*Dr. Rose is Deputy State Health Officer for New Castle County.

Delaware

New Cases of Active Tuberculosis
by Age Group, 1970 *

under 5 yrs.	6	12.4 per 100,000 population
5-14 yrs.	6	5.1 per 100,000 population
15-24 yrs.	10	10.5 per 100,000 population
25-44 yrs.	23	17.6 per 100,000 population
45-64 yrs.	36	33.4 per 100,000 population
over 65 yrs.	23	52.5 per 100,000 population
Age not stated	1	
TOTAL	105	19.2 per 100,000 population

New Cases of Active Tuberculosis
by Race and Sex, 1970

	Male		Female		Total	
	Cases	Rate	Cases	Rate	Cases	Rate
White	31	13.6	17	7.1	48	10.3
Non-White	39	102.0	17	40.1	56	69.9
TOTAL	70	26.1	34	12.1	104*	19.2

* One case report lacked identifying information.

New Cases by Form and Extent of Disease, 1970

	Number	Per Cent
1. Pulmonary		
Minimal	6	(7.3%)
Moderately Advanced	27	(32.9%)
Far Advanced	47	(57.3%)
Extent not Specified	2	(2.4%)
2. Extra-Pulmonary	8	
3. Primary	15	

FIGURE 1

eight times that for the rest of New Castle County. (Figure 1) Dr. Rose's data, which present the demographic characteristics of the tuberculosis problem, will be extremely useful in planning a community program.

Those of us connnected with the tuberculosis control program in Delaware found the "Guidelines" (Appendix A) somewhat difficult to follow as presented. A flow-chart has been drawn which explains the diagnosis and prophylactic treatment of tuberculosis infection. The assessment of each patient begins with either a tuberculin tine test (positives requiring confirmation) or an intradermal

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* Data computed by Dr. Rose.

PROPHYLACTIC TREATMENT OF TUBERCULOSIS INFECTION

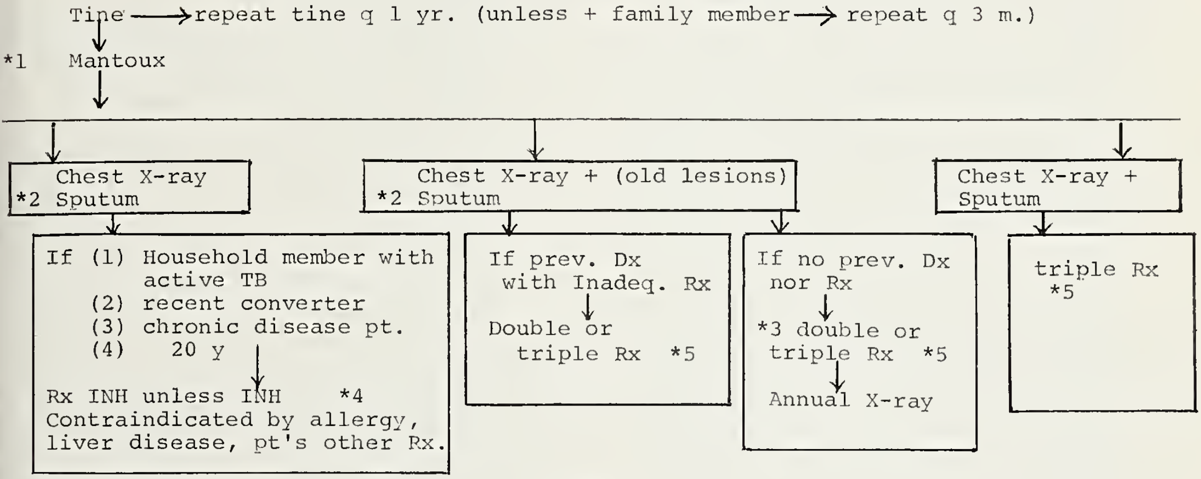
Tine → repeat tine q 1 yr. (unless + family member → repeat q 3 m.)
*1 Mantoux
Chest X-ray
*2 Sputum
Chest X-ray + (old lesions)
*2 Sputum
Chest X-ray +
Sputum
If (1) Household member with active TB
(2) recent converter
(3) chronic disease pt.
(4) 20 y
Rx INH unless INH *4
Contraindicated by allergy, liver disease, pt's other Rx.
If prev. Dx with Inadeq. Rx
Double or triple Rx *5
If no prev. Dx nor Rx
*3 double or triple Rx *5
Annual X-ray
triple Rx
*5

Figure 2

*1 Confirm all + tine with Mantoux unless tine shows severe reaction.
*2 At least one, prefer 3.
*3 Double if inactivity is definite.
*4 Chest x-ray in 3 m, then as clinical course indicates.
*5 Chest x-ray q 3 mo. while on Rx.

Mantoux test (intermediate strength). Figure 2) It is our hope that careful attention to the "Guidelines" and the diagram will answer the questions of those physicians who are contemplating INH prophylaxis for their patients.

APPENDIX A
GUIDELINES FOR PROPHYLACTIC TREATMENT OF TUBERCULOSIS INFECTION IN DELAWARE*

1. Screening patients considered for isoniazid preventive therapy. Screening procedures will be performed by the physicians and should include:
    a. Patients will have a chest x-ray and sputum examination to rule out active disease.
    b. A history of isoniazid administration to exclude those who have had an adequate course of the drug.
    c. A history of adverse reactions to isoniazid to exclude those with significant hypersensitivity reactions, including liver disease.
    d. A history of other long-term medications which would be evaluated for individual consideration by clinician and private physician prior to instituting chemoprophylaxis.
    c. A history of adverse reactions to isoniazid to deferring isoniazid preventive therapy until resolution of the acute process.
    NOTE: As isoniazid-associated liver disease is considered an unpredictable hypersensitivity response, a history of past (non-isoniazid associated) liver disease or the existence of (non-isoniazid associated) chronic liver disease is not necessarily a contraindication to the initiation of isoniazid preventive therapy.
2. Monitoring patients receiving isoniazid preventive therapy. Such patients should be interviewed at monthly intervals and evaluated by *clinical* means including an appraisal of:
    a. After three months of therapy, all patients receive a repeat chest x-ray. Patients who exhibit a lesion on x-ray which is suggestive of tuberculosis infection, irregardless of activity status, will be x-rayed at 3 month intervals while on prophylactic therapy. Thereafter, follow-up of all reactors will be based on the physician's recommendations.
    b. Symptoms consistent with those of hepatic damage — loss of appetite, fatigue, malaise.
    c. Signs consistent with those of liver damage — dark urine (described as resembling "coffee," "tea," "mud," etc.), jaundice, scleral icterus ("yellow eyeballs").

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*Adopted by *Interagency Committee on Tuberculosis,* meeting at Emily P. Bissell Hospital, Wilmington, Delaware, November 5, 1971.

   d. A routine monitoring by laboratory tests of liver dysfunction is not recommended.
      NOTE: No individual should receive more than a one month's supply of drug at one time. Each patient should be interviewed and his clinical status evaluated before a new supply is issued. The physician should evaluate the patient at least on a monthly basis during tht first three months of therapy. Future follow-up may be relegated to a Public Health Nurse or a Physician's Assistant, provided they are aware of complications which may arise from therapy. Patients attending chest clinic will be under the management and control of the physicians of the Emily P. Bissell Hospital. Recommended prophylactic therapy for isoniazid is 300 mg per day for adults and 10 mg per kilogram body weight per day for children, not to exceed 300 mg per day. It should be administered in a daily single dose over a period of 12 months.

3. Priorities for administering the drug are as follows:
   a. Household contacts: Positive reactors. Negative contacts will be considered on an individual basis. (This consideration will be based on the extent of the disease in the source case, the health condition of the contacts, and the environmental factors.) Negative contacts will be retested at three month intervals during the first six months and then at longer intervals as conditions warrant.
   b. Recent converters of any age. (A recent converter is a person whose tuberculin test has converted or substantially increased in size the last two years. A conversion means a change from below 10 mm induration to that level or above; a substantial change is one resulting in an increase of at least 6 mm or more.)
   c. An individual with previously known tuberculosis whose status is now inactive and who has not had adequate chemotherapy.
      NOTE: This type of individual should receive double or triple drug therapy.
   d. An individual whose x-ray shows lesions which are suggestive of prior tuberculosis infections and whose tuberculin test is interpreted as positive for infection with *M. Tuberculosis* and who has not had previous chemotherapy. This is especially true in patients 45 years of age or older. Every patient who receives prophylactic therapy should have the benefit of a sputum examination.
      NOTE: This type of individual should receive double or triple drug therapy.
   e. Other medical conditions occurring in a reactor such as diabetes, reticuloendothelial disease, post gastrectomy status, the administration of immunosuppressive drugs, or silicosis.
   f. Positive tuberculin reactors under the age of 20.
      NOTE: Other identified positive tuberculin reactors will be offered an annual chest x-ray.

Since it has been documented that there does exist an isoniazid-associated liver disease varying from 0 to 10 cases per 1,000 patients on isoniazid per year, these cases should be fully documented and reported to the Division of Public Health. The Division of Public Health will maintain surveillance and carry out epidemiology procedures on all cases known to them.

REFERENCE

1. Summary of the Report of the Ad Hoc Advisory Committee on Isoniazid and Liver Disease. Morbidity and Mortality, Weekly Report, Center for Disease Control 20:231, 1971.

* * *

PLUGGED-IN PHONEY

A stethoscope is an almost perfect symbol. In Memphis, a young man hung one around his neck and wandered in and out of hospitals for five months. He went from bed to bed, looking at charts, discussing all manner of things with patients, and giving nurses orders.

Finally, a janitor noticed that instead of wearing the stethoscope around his neck when not in use, he kept it plugged into his ears at all times — even while lunching in the hospital caftteria.

The truth was that he had absolutely no medical training. The day they led him out of the hospital door and into a police car, the arresting officer called him "Doctor."

Jerome Beatty Jr. in Esquire

PROPOSAL TO INCREASE PRIMARY PHYSICIANS IN DELAWARE

Harold S. Rafal, M.D.

There is a decreasing number of primary physicians in the state of Delaware. In addition, the average age of the Delaware general practitioner is in the late fifties. Medical educational activities of the past 20 years and the peculiarities of third party financing have inevitably encouraged physicians to specialize, thus causing an increasing deficit of primary physicians. During this same interval of time, mass population shifts have produced huge urban population concentrations most in need of and least served by primary medical care. Concomitantly, the exaggerated tendency for physicians to specialize has lured them into the cities and away from medically deprived rural areas. Despite some feeble gestures by medical schools to reverse the emphasis on specialization, it seems inevitable that recent changes by the Board of Internal Medicine, and the AMA Committee on Education and —the recommendations of the Millis Report will result in increased pressure towards specialization. Medical students are now being offered elective programs that encourage specialization as early as the third or fourth year in medical school. Therefore, starting at the premedical school level and continuing through medical school, it is important to develop a climate which will favor the production of primary physicians. Furthermore, favorable opportunities and attractions must be made available when primary physicians have completed their education and are ready to enter practice.

The current subsidy to Delaware students via the Jefferson-University of Delaware- Wilmington Medical Center affiliation agreement, which makes it easier for them to be admitted to medical school and at the same time helps to underwrite some of their tuition costs, is an excellent first step toward developing more physicians. It is essential that every effort should be made to interest them in community care problems. Since this program is financed by tax money, the recipients of this aid should be informed that the taxpayers are interested in, and in great need of, more primary physicians, and that the state has supported the program in the hope and expectation that the dearth of primary physicians in Delaware would be ameliorated.

See editorial comments on page 195

Currently, the tax money committed to medical education through the DIMER fails to offer much of a corrective. The Wilmington Medical Center is the primary training center for physicians in Delaware and receives funds for medical education through the DIMER.

The number of residents appointed to the Wilmington Medical Center for July 1, 1971 are as follows:

Medicine	14	Urology	3
Surgery	12	Plastic surgery	1
Pediatrics	12	*Family practice*	1
Ob-Gyn	8	Neurology	1
Radiology	6		

(It should be noted that the first family practice residency in Delaware was *initiated* on July 1, 1971; 4 residents will begin July '72.) Obviously, the overwhelming emphasis is still on specialization.

Adapted from a presentation to the Comprehensive Health Planning Advisory Council of the Dept. of Health and Social Services, State of Delaware.

Three Fundamental Programs

To move forward toward improving primary health care from our present status, three fundamental programs are required:

1) The creation of a program based in Delaware, oriented to primary health care and community medicine by Jefferson Medical College.

2) The offer of incentives to entering medical students to select such a program as their major interest in medical school.

3) The provision of practice advantages to graduates of this program of community medicine.

Let us consider each of these in detail.

1) Primary physician program at Jefferson. Jefferson has already committed itself in this direction. Dr. Willard Krehl has joined the Faculty as Chairman of the Department of Preventive Medicine and Community Health. He is already engaged in formulating a program and curriculum. The Delaware Institute of Medical Education and Research should exert its influence to accelerate this program and make its desire felt at Jefferson Medical College. There is no doubt that enthusiastic support and participation of the staff of the Wilmington Medical Center, the Delaware Academy of Family Physicians, and the county and state societies would be forthcoming. Currently, there are almost no general practitioners on the faculty of any medical school. For this reason, there has been no emphasis on primary practice in medical schools. Thus, medical students inevitably will seek to emulate specialists rather than primary physicians. The establishment of a strong program for primary physicians at Jefferson would overcome some of these vital deficiencies.

At present, the State of Delaware is contributing $9900 per year for each Delaware student entering Jefferson under the affiliation agreement. It should be recognized that this is a contribution without a *quid pro quo* insofar as the production of primary physicians is concerned. Jefferson receives the money and spends it as it sees fit. The traditional power of the specialty departments at all medical schools, including Jefferson, gives little reason for optimism that any significant portion of the money will be diverted to strengthen programs designed to generate primary physicians. On the contrary, any newly founded Department of Community Medicine is the "runt of the litter" at the feeding trough of medical school departmental disbursements and will remain puny and under-nourished if it must compete with the well-established specialty departments (see Appendix I — letter from Fitzhugh Mayo, M.D., Medical College of Virginia, Department of Family Practice). The tradition-bound specialties look askance at the foundling department of primary practice rubbing elbows with them in their previously sacroscanct bailiwick. Therefore, it is herein urged that the State of Delaware negotiate an arrangement whereby (1) a sizable share of Delaware's contribution to Jefferson be earmarked exclusively for the Department of Preventive Medicine and Community Health and (2) that the Department of Preventive Medicine and Community Health have its clinical clerkships based in Delaware. Using the community model plan described in Appendix I, the whole State of Delaware could be involved in the program and the medical student and family practice resident would be exposed to different areas of the state, areas of which they may become fond and to which they may return to practice. Also, by removing the bulk of the activity of the Department of Preventive Medicine and Community Health to Delaware, there would be less tendency to provoke the specialty departments of Jefferson by challenging their "territorial imperative." It is also noteworthy that such an arrangement would in a single stroke establish within Delaware that part of a medical school which has the greatest pragmatic value under current conditions to the health care of the public. The fact that there are primary physicians in Delaware who are willing and eager to teach their field of expertise lends additional vigor to this concept.

2) Incentives for Medical Students. Currently, the State of Delaware pays about $9,900 to Jefferson for each student enrolled in the program. Despite this generous contribution, the student incurs a personal obligation of between $2500-$3000 per year in order to go through medical school at a subsistence level. We propose that Delaware offer this differential as an *additional* stipend for these students as an incentive to enter a primary physician program while in medical school and after graduation. It would be necessary to define and clarify the curriculum and academic program under the aegis of the Department of Family Practice which they would be expected to select under the system of electives in operation at Jefferson. Deviation from this requirement in the third and fourth years (the 'clinical' years in which the student begins his drift towards the field of medicine which he will eventually enter) would result in the loss of state scholarship money, either the additional stipend of $2500-$3000, the subtraction of the $2500-$3000 from the base $9900, or, if punitive measures are required, the whole allotment.

3) Provision of advantages to graduates of this program and other physicians to enter primary practice in Delaware in needy areas. Fear of financial insecurity (for the most part unwarranted) and medical isolation (a real hazard) are two major reasons why physicians have turned away from primary practice, especially in areas of need. Therefore, it is necessary to provide adequate opportunities free of these hazards for graduates of the primary practice program in order to induce them to enter practice in needy areas.

Such needy areas would be designated by a primary physician priority allocation board named by the Governor. This board would assign primary physicians to needy areas. Wherever possible the physician would have his choice of designated areas. *Any* qualified physician would be eligible for this phase of the program. *A paramount consideration would be the assignment of more than one physician to the same location to work as a team.* Solo practice is often too demanding in time and energy, depriving the physician of opportunity for rest, study, and recreation. This has in the past been, and would in the future be, likely to induce him to become discouraged and leave.

A concerted postgraduate educational program through the Jefferson-Wilmington Medical Center Educational Program, specifically designed for primary physicians, would continue to be needed. Such a program has already been initiated and should be strengthened. The full weight of the county and state medical societies' support should assure the continuation of the current Delaware policy of providing full hospital privileges to these physicians.

The state would take the lead to assure the availability of adequate facilities so that the health needs of the population could be adequately provided for by the physicians in the areas to which they are assigned.

Physician Incentives

In an attempt to provide an incentive to primary physicians to practice in areas not now covered by medical practitioners, the State of Delaware should inaugurate an incentive program as follows:

A guaranteed net income of $20,000-$25,000 per year should be offered.

To enable the doctor to set up his business and to pay for supplies and office help, the sum of $10,000 annually in cash or in kind should be allowed for a period of three years. After the initial three years, this allowance would cease and these costs become the responsibility of the practicing physician.

The costs of rent, heat, light and other costs of the office would be the responsibility of the physician.

The county medical society of the county in which the physician is practicing shall make every effort to acquaint the physician with the vagaries of that county.

State income tax for family practice physicians should be forgiven. This may seem politically unpalatable at first blush. In actuality, it would not be a large loss of tax revenue because the number of family practitioners is dwindling. Indeed, it would not be a large sum of money gained by the family physician because the money acquired through state income tax forgiveness would be subject to federal tax. The major benefit of this gesture of generosity would be psychological, proclaiming to the nation that Delaware recognizes the vital importance of the family physician in the health care needs of its people. Though Delaware is small, original innovative ideas get national publicity (witness the coastal zoning statute) and may draw family practitioners to the state from other areas of the country.

Except for the state income tax exemption, the economic support described above would be discontinued after three years. Establishment of this type of practice arrangement should be admirably suited to encourage the integration of allied health professionals with great opportunity for utilization of local people. A large range of opportunity for minority groups, both as physicians and allied health professionals, would thereby be provided. It would be the responsibility of the Physician Allocation Board to aid in the establishment of such practices in needy areas, to conduct ongoing evaluation of the efficiency of the program, and to maintain communication with the local community so that adjustment and up-grading of policy and practice would be prompt.

A parallel program may be offered to the "new breed" of young physician who does not wish to accept the burden of the many managerial or enterpreneural chores required in traditional private practice. A state-wide Professional Association for Primary Physicians could be established which would handle all the details of licensure, insurance, personnel scheduling, vacations, pension and profit plans, etc. This could be financed on a prepaid or fee-for-service basis or both. It is possible that the Delaware Foundation for Medical Care, still in its infancy, may be a proper vehicle for such an undertaking.

Once the program is implemented, every effort should be made to publicize the opportunities available. The publicity should begin at the high school level.

The Family Practice residency at the Wilmington Medical Center will almost certainly be an important factor in the education of primary physicians. It is anticipated that the active involvement and participation of physicians in the lower counties will be an integral part of the Family Residency program. This would coordinate this educational program at a statewide level.

Obviously, the prospect of success is impossible to predict. A recent study of programs with a similar objective has been conducted. Efficacy ran the gamut from dismal failure to highly successful. It is doubtful, or at least unclear, whether any of the programs studied were co-ordinated from the educational level through practice incentives, or whether they had the endorsement and the support of the state government and the preference of the people.

It is believed that a concerted program, such as that outlined here, offers the greatest prospect of success.

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Appendix I

"We now have an autonomous department in the medical school . . . . We have matched over twenty residents for beginning the residency training program in July, 1971. As you can see, our program is decentralized in various places in the State of Virginia as we perceive that realistic primary care training can best be done in the communities rather than in the traditional departments of the medical school.

"Our department is funded by categorical funds allocated by the state legislature for the specific purpose of developing a family practice program. Without this method of funding, we feel it would be difficult, if not impossible, to establish a viable department of family practice in an existing medical school. . .

"The major pitfalls to avoid in our estimation are allowing the faculties of medical schools as presently organized to have a veto over the institution of the training of primary care as an academic discipline; making a new department of family practice compete within the medical school and the university for funds during the establishment of such a department; and allowing such programs to be relegated entirely to the ghetto or the outpatient department of the usual university medical center." *Letter to Harold S. Rafal, M.D., April 22, 1971.*

Editorials

ONE VOTE — MANY VOICES

Your delegate has just returned from the 121st annual session of the House of Delegates of the American Medical Association. The House addressed itself to 123 resolutions and 56 reports, which were discussed and studied in 11 reference committees before receiving final action. The subjects ranged from marijuana, blood, and guns, to peer review, third parties, and reorganization of the Association. Whatever criticism may fairly be directed toward the AMA, the lack of democracy is not one of them. If properly used, the mechanisms exist in that organization to make it the most democratic national group in existence, and if not properly used, this is the fault of the grass roots and not the structure of the Association. Every physician should make it a must to attend a meeting of the House of Delegates, to participate in reference committee hearings, and to monitor the proceedings of the House itself. He will then see that the problems which face medicine and the American people receive the kind of in-depth consideration he would want them to receive, and that, while every decision made cannot please every physician, a reasonable consensus is reached which reflects the very heart of the democratic process.

One of the almost unanimous and perhaps wise decisions made by this House was not to adopt the resolution submitted by Delaware to provide a minimum of two voting delegates for each state. The present arrangement provides for one delegate for each 1000 member physicians of each state. The main arguments against the Delaware resolution were that such a change would violate the principle of proportional representation now in existence, would enlarge an already unwieldy-sized House, and would place an increased financial burden on small states already finding it difficult to meet their obligations.

It seems to this reporter that a state should take full advantage of its existing delegate vote before it is justified in seeking additional voting strength. This can be done by channeling many member voices into this voting prerogative. There are numerous avenues by which this can be accomplished. Thirty days prior to the Annual and Clinical meetings of the House of Delegates, the American Medical News will publish the business to come before the House, and Delaware physicians should study this report and contact their delegate by letter or by telephone to provide input for his decisions. (Prior to the Annual Meeting this past June he received one letter, two phone calls, and two corridor consultations — surely our membership can do better than that in the future.)

Any physician who is attending the Annual or Clinical convention should notify his delegate so that he can become a part of the Delaware delegation and share in the discussions and decisions to be made at breakfast and luncheon caucuses as the session progresses.

Physicians who are sent by the Society as President (or his representative), or as alternate delegate, should consider their first obligation to participate in this process while attending the meeting. All other interested volunteers will be welcome, for the true work of the House of Delegates is done in eight or nine reference committees meeting concurrently, and any physician member may participate actively in these proceedings.

Let us therefore become involved, and by one means or another, let us hear many voices, so that the one Delaware vote may be representative and meaningful.

W.O.L.

* * *

MORE FAMILY PHYSICIANS IN DELAWARE?

In his *Proposal to Increase Primary Physicians in Delaware,* Dr. Harry Rafal is really speaking about two goals. (See page 191) One is to increase the absolute number of primary physicians in Delaware. The other is to provide rural Delaware communities with these doctors. He suggests that Delaware offer generous financial incentives to attract family practitioners to rural areas for at least a few years in the hope that they will like it so much they will stay there even after their required period of time is over.

This is not a system we believe will work, unless there is so marked a recession — yea, a depression like that of the early thirties — that doctors will go anywhere to earn a living. But until such an unfortunate time, and also because of the elevation of family practice preparation to specialty status with three or so years after medical school required — years spent largely in the environs of medical centers almost entirely urban, at the most suburban — we believe that you will never again keep young doctors in any sufficient numbers down on the farm after they grow accustomed to Central City's ICU, blood bank, and SMA/95. The federal programs such as the new National Health Corps can only be considered a drop in the bucket, for not all physicians can be permitted to volunteer for duty in the country as a substitute for service in the armed forces. Nor can a system based on reluctant "volunteers" supply rural America with the kindly, competent, dedicated family doctors of whom it keeps vocalizing its dreams.

As one of my friends, who's a kindly, competent, city family practitioner puts it, "A solo man moving to a small town nowadays would have to be dotty. But two or three guys going together into a rural area to practice would be feasible *if* you could find two or three guys." (Ed. note: *Or dolls, maybe?*) He also suggests that the community, state, or otherwise which wants these doctors will have to be prepared to subsidize such costly niceties as TV between rural offices and nearby medical centers.

The paper referred to by Dr. Rafal reveals no striking success in those states that already have developed programs of fiscal support for medical students in exchange for several years of their practice time in areas of need within their state.[1] Those serious about developing a similar system for Delaware would do well to evaluate closely the experience of those states with programs that went awry and also those who say they had successful programs. Mississippi reports its program terminated in 1964 because of extreme success — no more incentive loans for rural practice necessary. We don't believe it. Nebraska, on the other hand, abandoned its program in the same year because "practically all borrowers preferred to pay back loans and avoid service in rural areas of need."

Senator John Tower has recently introduced federal legislation to exempt the first $20,000 of income from income tax for the first year of practice in a "shortage" area with continued but lesser exemption for the next five years and a minimum of two years' practice in the area to qualify.

It is not money alone, or even very strongly, which determines career choices for doctors. A study by the Rand Corporation entitled "Lifetime Earnings and Physicians' Choice of Specialty" found, to my pleased surprise, that potential income was not a significant factor in the choice of medical specialty.[2]

There are now more than 100 residency programs in family practice scattered throughout the United States. Most of them are affiliated with schools of medicine in a direct or associated way. Most of them, like the program at the Wilmington Medical Center, are too new to evaluate for success or failure. As a matter of fact, I suspect their own definition of success has not yet been written, and I therefore feel free to suggest my own: the continuation of these programs beyond this decade's clamor for more primary physicians. (This assumes that this clamor means more than merely a desire for an advisor to choose the appropriate specialist.) And also a continuation beyond these suddenly lean years for medical schools accustomed to research grant support for faculty salaries. This grant support is now abundant for family and community medicine but has almost dried up for enzyme, chromosome, and other more laboratory, than community-oriented projects. I stipulate as an additional criterion for the bestowing of the accolade of success, the remaining in the practice of family medicine, or even of general adult medicine, of the great major-y of graduates of these programs for at ast twenty-five years of their professional ves after they leave their training programs.

B.Z.P.

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* * *

LUCYTOSINE

Flucytosine has recently been made available to the medical profession for the treatnent of selected fungus infections. This orally administered fluoropyrimidine has *in vitro* nd *in vivo* activity against many strains of *ryptococcus neoformans, Candida sp., Toruopsis glabrata,* and occasional strains of *Aspergillus fumigatus.* This agent has no activty against the pathogens that cause histoplasmosis, coccidiomycosis, or blastomycosis. Since amphotericin B is the only commercially available preparation for the treatment of the systemic mycoses, the availability of flucytosine has caused considerable interest.

The failure rate in patients with cryptococcal meningitis treated with amphotericin B is about 25 to 30%. Flucytosine has been used successfully to treat patients failing to respond to amphotericin B, and recently patients have been treated from the outset with a combination of amphotericin B and 5-fluorocytosine. The fact that the cryptococcus appears to be able to adapt to a flucytosine environment lends support to the use of concomitant therapy. This regimen has been used in two patients at the Wimington Medical Center with a microbiological cure in each instance, though one patient died of the ravages of his disease.

There are reports of the successful treatment of candida sepsis with this new antifungal agent.[1,2] However, it is important to point out that many clinical isolates of *Candida albicans* are resistant *in vitro* to flucytosine (50% in our laboratory). Therefore, the clinician should request *in vitro* susceptibility testing whenever prescribing flucytosine even when therapy is instituted before this testing is completed.

Susceptibility testing of fungi with flucytosine requires special techniques and is currently available in the Infectious Disease Research Laboratory at the Delaware Division of the Wilmington Medical Center.

There have been reports of success in the treatment of aspergillus infections in animals with flucytosine; however, these studies have not been confirmed, and further experience is necessary before this agent can be recommended for the treatment of aspergillus infections.

Flucytosine is given by mouth in a dosage of 50-150 mg/kg per day in divided doses at six-hour intervals. It is suggested[3] that this agent be used in optimum therapeutic doses with the hope of avoiding the development of *in vivo* resistance.

Flucytosine is well tolerated with minimal gastrointestinal side effects. Elevation of the serum transaminase and leukopenia have occurred so it is essential to monitor patients with hematologic and liver profiles at regular intervals. Caution will have to be exercised in patients with impaired renal function as this drug is excreted by the kidney.

The duration of therapy in patients with *Candida albicans* infections will depend primarily upon the patient's response to treatment. In patients with cryptococcal meningitis the course of therapy will range from four to eight weeks.

W.J.H.

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3. Utz JP: Flucytosine (Ed) NEJM 286:777-778, 1972.

* * *

PRIMARY AMOEBIC MENINGOENCEPHALITIS

The "old swimmin' hole," which can make hot summer days so pleasant for the younger set is not necessarily a source of untroubled delights. Fresh water lakes and pools fed with water from an adjacent river or lake have provided the causative organisms for cases of primary amoebic meningoencephalitis, an infection which is almost invariably fatal. Since the disease was first reported in Australia in 1965, over 50 cases have been documented from Europe to California.[1] Cultures have shown the responsible pathogens to be free-living amoeboflagellates of the genus *Naegleria,* or in one instance, amoebae of the order *Myxomycetale* (slime mold).

In a recent publication by Duma et al, two new cases of primary amoebic meningoencephalitis and two previously reported cases were presented and discussed with respect to the clinical, pathological, epidemiological, and protozoological aspects of the disease. The prominent initial symptoms of the four patients with infections culturally proven to be caused by *Naegleria* included severe persistent bifrontal headache, fever, nausea and vomiting. Various overt neurological abnormalities then followed. The cerebrospinal fluid was sanguinopurulent and showed amoebae in wet preparations. Hyperglycemia and glucosuria were also present in each case. On pathologic examination, the olfactory bulbs were found to be severely diseased; invasion by the organisms was believed to occur through the nasal mucosa.

Standard antiamoebic agents were administered with no apparent success. Only amphotericin B appears to have any promise in this severe disease; it appeared to prolong survival in the two patients who received it intrathecally and intravenously, and in one case the drug sterilized the CNS. *In vitro*, using concentrations therapeutically achievable in man, amphotericin B was amoebocidal against the strains isolated from all four patients. The only patient to survive amoebic meningoencephalitis is a child who was diagnosed exceptionally early and treated with amphotericin B.

In all four cases, the time from exposure to onset of illness was five to six days. The patients were excellent swimmers who did considerable underwater swimming or highdiving in Virginia lakes on the probable midsummer day of exposure.

Another report of the disease, occurring in California, appears in the recent literature[3] Frontal headache, fever, nuchal rigidity, vomiting and photophobia again were the initial symptoms. When the teenage patient became unconscious, lumbar puncture revealed a significant increase in cerebrospinal fluid pressure and leukocytosis. Postmortem histologic examination disclosed clumps of organisms morphologically resembling *Naegleria* in the meninges and grey matter of the cerebellum.

Because the disease is capable of epidemicity and because its pathologic process is rapidly destructive, identification of the water source of infection in a single case should be accomplished quickly to enable public health officials to close that source to swimmers.

JOAN H. DONOHO, B.S.
C. R. DONOHO. JR., M.D.

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* * *

> The recent history of technology has consisted largely of a desperate effort to remedy situations caused by previous over-application of technology.
>
> From Paul Goodman's *Can Technology Be Humane?*

President's Page

THE OTHER SIDE OF THE COIN?

The President's Page this month was written by Stuart W. Rose, M.D., Vice President of the Medical Society of Delaware.

We are incurable optimists. If we weren't, we probably would not get out of bed in the morning. Almost daily we experience frustrations in many areas of trying to bring to our patients the help and needs we feel they should have. Despite the frustrations, we should and we do drive on.

We are pragmatists and realists. None wants to make compromises in medical practice, and, hopefully, a minimum are made and these, frequently, at the patient's insistence.

Now our services to the patient have been rendered. At this point the patient owes us a fee for the services rendered, but, with rare exception, he doesn't know it. He thinks that the insurance carrier owes us the money. But the day of the third and fourth party in medicine is here. The day of Federal programs is here and more are merely months away.

We feel that high quality medical care should be available to all, regardless of their socio-economic status.

BUT, what about a fee for service rendered? The fee should be equitable. The fee is not for a *procedure*. The treatment, surgical or otherwise, may require skill and judgement born of extended experience. The time required for the best attendance of one patient may far exceed that of another. Does this average out? Not necessarily at all. In many areas of practice there are no "easy ones."

The contracts which patients have with insurance carriers may or may not have an "assignment" clause. At best, their benefits are ill understood by the patient. Where the patient has no third party coverage and cannot afford the fee, a token sum or none at all has been acceptable.

We are not reactionary. We are willing to work in any equitable formula of socialized medicine for an annual salary. (After all, there is a great deal to be said for a forty-hour week and paid vacations.)

BUT, as long as we are talking about a fee for service, we would propose that the physician not be "locked in" by a contract which would force him to accept a specified amount which would not be a fair compensation for his service, again, a sum of time and talent. The concept of a set fee for a *procedure* has no appeal or rationale for service rendered.

H. M. Baganz

HEALTH LEGISLATION OF INTEREST TO MEDICAL SOCIETY OF DELAWARE

To briefly review, a bill introduced in the General Assembly must pass both houses of the Legislature in the same form.

Most legislation dealing with health and medical care is assigned to either the Senate Committee on Health and Social Services, chaired by Senator Louise Conner, or the House Committee on Health and Social Services, chaired by Representative Daniel Weiss, with Representative Thomas Little, Chairman of the Health Subcommittee.

Delaware's 126th General Assembly completed its work on June 30. The following is a listing of some of the legislation with significance for medicine considered in the recent session of the General Assembly. Bills not yet enacted into law can now be considered "dead." Allston J. Morris, M.D. is Chairman of the Public Laws Committee, which considers health legislation and makes recommendations to the Board of Trustees of the Medical Society of Delaware. For further information or a copy of any of the bills listed contact the Society office, 658-7596 or 652-6512.

BILL	TITLE — SUBJECT	SOCIETY POSITION	CURRENT STATUS
H.B. 104	Providing for health insurance, group health insurance, blanket health insurance and health service corporations to be subject to Delaware Code regarding rates (Little)	Took position of "no position"	Passed House; did not pass Senate
H.B. 198	To provide for the licensing and regulation of rates charged by hospitals (Dillman, Little, and others)	Took no position. Took stand in opposition to rate review and certificate of need legislation	Failed to pass either house
S.S. 1 for S.B. 410	An act to establish a Delaware Voluntary Formulary Advisory Board, to develop a Delaware Formulary for Voluntary Use, and to Promote the Availability of high quality drug products at reasonable cost (Conner)	Supported the voluntary formulary concept but not a legislated formulary	Passed Senate; did not pass House
S.S. 1 for S.B. 535	Concerning termination of human pregnancy (Conner, Steele, Holloway)	Took no stand	Passed Senate; defeated in House
S.B. 542	Concerning health and safety and specifically relating to the sale of unsafe products (lead paint) (Cicione)	Supported the concept but recommended changes	Failed to pass either house
S.B. 543	Relating to the regulation of food and drugs (Childproof containers) (Cicione)	Supported in principle but favored bill being rewritten	Failed to pass either house

BILL	TITLE — SUBJECT	SOCIETY POSITION	CURRENT STATUS
H.B. 617	Providing for a nurse in each school (Poulterer)	Did not support, feeling concept is a wasteful use of nursing skills	Failed to pass either house
H.B. 622	Relating to the control and abatement of noise (Knox)	Supported	Failed to pass either house
S.B. 634	To delay the interest on repayment for hospital construction loans (Foltz)	Supported	Signed by Governor 5/24/72
S.B. 641	To allow the Division of Physical Health to pay for indigents being treated at Emily P. Bissell Hospital (Conner)	Supported	Signed by Governor 6/20/72
S.B. 647	To add $10 million to the revolving hospital construction fund (Conner)	Supported	Passed both houses
H.B. 671	Relating to the eligibility of chiropractic Physicians for compensation from insurance, group hospital services, and related plans (Poulterer, Justice)	Opposed	Passed House; did not pass Senate
S.B. 697	To maintain the existing level of psychologists in education (Hale)	Supported an increase in number of psychologists	Signed by Governor 7/14/72
H.B. 698	To change class size for special classes for pregnant students (Justice and Seibel)	Supported	Failed to pass either house
H.B. 699	To change the state funding for guidance counselors (Justice and others)	Took no action	Failed to pass either house
S.B. 703	To change admission and payment procedures at the State Home at Smyrna (Slawik)	Supported as amended	Signed by Governor 7/7/72
S.B. 705	To provide $196,000 to the Division of Physical Health for the establishment of a sickle cell anemia program in Delaware	Supported as amended	Signed by Governor 7/7/72
H.B. 725	Legalizing the use and possession of all forms of marihuana in private residences and imposing penalties for public possession (Little)	Took no position	Failed to pass either house
H.B. 726	Relating to Family Court jurisdiction over juvenile drug offenders (Hering)	Supported	Passed both houses

BILL	TITLE — SUBJECT	SOCIETY POSITION	CURRENT STATUS
S.B. 741	To provide tenure for the Director of Physical Health	Supported	Failed to pass either house
H.B. 763	To make the age of consent for sexual relations 12 (Seibel)	Supported	Failed to pass either house
H.B. 806	To regulate optometry (Lesher and Hearn)	Opposed	Failed to pass either house
H.B. 819	To set blood alcohol standards for drunk driving (Billingsley)	Supported in principle but recommended even more stringent standards	Failed to pass either house
H.B. 836	To set qualifications for practicing medicine (FLEX examinations) (Hering)	Supported with exception of one amendment	Failed to pass either house
H.B. 855	To give Family Court jurisdiction over marihuana cases (Little)	Supported	Failed to pass either house
H.B. 856	To appropriate money to combat venereal disease (Weiss)	Supported	Failed to pass either house
H.B. 888	To eliminate boards (Board of Health) from the Constitution (Hering)	Opposed	Failed to pass either house
H.B. 897	Providing for establishment of a division of state service centers	Supported	Failed to pass either house
H.B. 912	To allow more psychologists for the public schools (Heckert)	Supported an increase in number of psychologists	Passed both houses
H.B. 920	To require user approval before water is fluoridated (Derrickson)	Opposed	Failed to pass either house
H.B. 930	To regulate hearing aid dealers (Weiss)	Supported in principle but recommend changes	Failed to pass either house
H.B. 936	To make it mandatory that those arrested for public intoxication be taken to a detoxification center (Matushefske)	Did not support in present form	Failed to pass either house

Delaware Academy of Family Physicians

FAMILY PRACTICE NOTES

New Family Practice Bill a Possibility

The Academy will work toward introducing a bill similar to the vetoed Yarborough-Rooney Bill into Congress this fall, according to a proposal of the Legislation and Public Policy Commission endorsed last month by the Board of Directors of the AAFP.

Passage of specific family practice legislation, which could supply funds in addition to those authorized by the 1971 Health Manpower Training Act, is viewed as a definite possibility by its proponents because of nearly unanimous support given the Yarborough-Rooney bill in 1970.

Other recommendations of the Commission which won Board endorsement at the Board's April 20-21 meeting are:

Opposition to the establishment of professional standards review organizations.

Support of the American Medical Association's Medicredit proposal, along with continued discussion with other primary physician organizations of guidelines on national health insurance.

Opposition to the Legislative Activities Disclosure Act, which would restrict the Academy and similar specialty organizations in attempts to influence legislation.

Support, in general, of approaches to legislation on child care which emphasize coordination of effort under one Washington bureau.

New Data in Productivity Courses

The summer-fall schedule of AAFP Practice Productivity Workshops follows:

RESORT WORKSHOPS

Aug. 12-14	The Concord	Monticello, N.Y.
Sept. 23-25	The Cloister	Sea Island, Ga.
Oct. 19-21	Regency Hyatt	Acapulco, Mexico

CITY WORKSHOPS

Sept. 16-17	Mayflower Hotel	Wash., D.C.
Oct. 7-8	Ambassador Hotel	Chicago
Oct. 20-21	Miyako Hotel	San Francisco
Oct. 25-26	Hyatt Lodge	Minneapolis

Academy members may register for any of the workshops by writing Conomikes Associates, Inc., 64 Greenwich Avenue, Greenwich, Conn., 06830. Telephone (203) 869-6740.

Doctors who participate in the workshops will learn what fee increases are permitted under the economic stability program, which forms to use in justifying increased fees, and how to appeal for exemptions or exceptions, among other things. Each doctor who pays the $285 registration fee is entitled to enroll as many as three aides at no *additional charge.*

The course is accredited for 14 AAFP prescribed credit hours and is tax deductible (registration fee, travel, meals and lodging) under Treasury Department Regulation 1.162-5.

Early Registration a Must for Assembly in New York City

Please register early for the 1972 Scientific Assembly to assure your accommodations. Extra participants will be on hand for this year's September 25-28 meeting because of the fellowship convocation, and rooms are assigned on a first-come, first-served basis.

Send reservation requests directly to AAFP headquarters. Appropriate forms appear in each issue of *American Family Physician.*

Enclose a check for the registration fee of $15.00 (authorized by the Board of Directors to help offset labor costs). Non-members will pay $25.00.

Leblang's Theatre Tickets, Inc. will have a special AAFP Theatre Ticket Booth at the N. Y. Coliseum *during* the convention in New York, September 25-28, and at the *Theatre*

Ticket Desks at most of the major New York hotels.

A supply of tickets will be available for the hit shows for AAFP.

Leblang's is located at 207 West 45th Street, New York, N. Y., 10036.

Fellowship Convocation

Two separate AAFP fellowship convocation ceremonies are scheduled during the 1972 Scientific Assembly in New York City this fall — one at 6:00 p.m. Tuesday, September 26, and the second at 8:30 the same evening. Both will be held at the Felt Forum in Madison Square Garden.

Fellowship applicants will be notified by mail which ceremony they are to attend. Allocation will be by state chapter, so that all applicants within a chapter will receive their degrees at the same ceremony. Seventeen Delawareans are scheduled to participate.

A fellow of the American Academy of Family Physicians, "I will pledge:

> . . . "to provide comprehensive and continuing health care to my patients, placing their welfare above all else;
>
> . . . "to exemplify and substantiate the highest traditions of my profession through an informed and scientific practice of family medicine;
>
> . . . "and to strive for professional enrichment through a rigorous program of continuing education."

Core Content Review

The Connecticut and Ohio Academies of Family Physicians will offer another Core Content Review educational project starting in October 1972. The 1972 program will consist of five Reviews of 80 to 100 questions each, which will be mailed monthly to participants. Two weeks after receiving the questions, each participant will receive a complete set of answers with detailed explanations and reference sources. Once all five Reviews have been completed, participants will receive a bonus sixth Review, which will serve as a final Review of the key areas of family practice.

This year a certificate of completion will be provided to each participant who completes all six monthly Reviews.

There will be no grading of the Core Content Review except by the individual participating physician. As in past years, the program will be approved for 18 hours of prescribed credit. The registration fee for the Review is $35 for members and $50 for nonmembers. Physicians interested in participating must register by August 31. Checks made out to CORE CONTENT REVIEW should be sent to: Core Content Review, 4075 N. High Street, Columbus, Ohio, 43214.

* * *

PROFILE OF A TYPICAL HOUSE STAFFER

According to a sample survey reported at the recent First National House Staff Conference here, "he" is 29 years old, graduated 3.6 years ago from medical school, and is in debt to the tune of $4,275.

He works an average of 105 hours per week and spends 5.1 hours per week in teaching sessions. He also puts in 8.1 hours doing work that is within the scope of nurses, technicians, or secretaries.

About 83 percent of house staffers are married, according to the survey, and the average household included 3.24 persons. Twelve percent of wives are currently pregnant, and more than one in four has had a baby in the past year. Cost of delivering this baby ranged from $35 to $1,000 with an average of $590.

Nearly one in every five physicians holds a moonlighting job, while 36 percent have outside sources of income. More than one out of every two wives works. Nearly half of the physicians surveyed had borrowed money in the past year.

House Physician Reporter, May 1971.

In Brief

Health and Nutrition Survey

About 350 persons aged one through 74 years from Sussex County, Delaware and Worcester County, Maryland will be invited to receive health and nutrition examinations in a study beginning August 12 and ending September 7, 1972. The examining program is part of a nationwide survey of young persons and adults conducted by the Health and Nutrition Examination Survey of the US Public Health Service. Examinations will be conducted at Grace United Methodist Church, 300 E. Market St., Georgetown.

The Survey will examine a representative sample of the US population over the next two years, visiting 64 locations throughout the country for this purpose. The Survey will be collecting uniform statistical information on selected chronic disease conditions and on the nutritional status of the population aged one through 74 years. Persons to be examined are selected by scientific sampling techniques and invited to participate in the data-collecting process. Examinations are conducted at the Survey's mobile examination center, which will be set up at a central location. Each examination team consists of a general examining physician, dermatologist, ophthalmologist, dentist, nurse, laboratory technician, two health technicians, secretary, three nutritionists, and supporting staff of administrative personnel and interviewers.

All data and information collected from those individuals participating in the Survey are used for statistical purposes only and are strictly confidential. A copy of examination findings, including laboratory findings (hemoglobin, red and white cell counts, cholesterol, iron, vitamin levels, etc.) may be made available to an examinee's personal physician or clinic physician should this be requested and authorized by the examinee. Findings of the examination are not made available to the examinee by the examining staff, but rather through his physician, who is best able to interpret the findings and possible significance of such for the individual involved.

Operationally, the Survey is preceded in each area by interviewers from the Bureau of the Census, who visit the selected census tracts for the purpose of identifying the eligible persons and collecting related information. From this list of eligibles, a number of sample persons is selected and later contracted by Health and Nutrition Examination representatives, who explain the Survey, seek authorization for participation, and arrange appointments for the examination and transportation. No charge is made for the examination and transportation provided to and from the mobile examination center.

Substitution of Drugs

The AMA has warned physicians to be on the alert for a ploy of the American Pharmaceutical Association's Academy of General Practice. The Academy has set guidelines for pharmacists to circumvent the need for court tests or legislative repeal of anti-substitution laws in about 42 states. While the parent APhA would repeal state laws to allow drug substitution, the AGP recommended that pharmacists use model consent forms in drawing up documents to obtain prescribing permission from physicians in their communities.

The basic form recommended by AGP would, in effect, provide authorization from physicians to allow pharmacists to substitute generic products for brand names. Three attachments to this basic form would limit the degree or amount of substitution.

Such consent forms could go beyond just one individual and might very well be used as a blanket authorization covering all pharmacists in a given location.

Speakers on "Ask the Doctor"

Speakers for August 1972 on the Tuesday radio program (11:05 a.m., WDEL) produced by the Medical Society of Delaware are: August 1, Howard Cohen, M.D., *Tonsils and Adenoids;* August 8, I. Lewis Chipman, Jr., M.D., *Colitis;* August 15, George Eriksen, M.D., *Topic to be announced;* August 22, R. Walter Powell, M.D., *What Is Diabetes?;* August 29, Joseph Glick, M.D., *Drug Abuse.*

Viet Nam Volunteers

The American Medical Association's Volunteer Physicians for Viet Nam program, carried out under contract with the Agency for International Development, has provided more than 700 US civilian physicians to serve more than 900 tours in provincial hospitals in that Asian country. AID recently asked the AMA to extend the program through June 30, 1973. Some 100 additional volunteers will be needed. Further information is available through the Office of the Program Director, Volunteer Physicians for Viet Nam, American Medical Association, 535 N. Dearborn St., Chicago, Ill., 60610.

In the News

Mr. Clifford T. Foster is the new President of the Delaware Tuberculosis and Health Society replacing Mr. Richard Griffith.

Mr. Jack Cross has been named Executive Director of the Association of Delaware Hospitals, which is moving it headquarters to Dover.

Norman P. Jones, M.D., Dover internist, has recently been made a Fellow of the American College of Physicians.

Senator Roth On Arthritis

Senator William Roth's speech on "Arthritis: A Wide-spread but Neglected Human and Economic Cause" appears in the Congressional Record of December 2, 1971. He was sponsor of a law designating May as National Arthritis Month.

Clinical Center Study

The cooperation of physicians is requested in the referral of patients with active and progressive eye changes of Graves' disease, regardless of thyroid status, for study and treatment by the Endocrinology Service, National Institute of Child Health and Human Development, at the Clinical Center, NIH, Bethesda.

Upon completion of their studies, patients will be returned to the care of the referring physician who will receive a summary of findings with recommendations for further therapy.

Physicians interested in having their patients considered for admission to these studies may write or telephone: Dr. Peter O. Kohler or Dr. Griff T. Ross Clinical Center, Room 10B-09, National Institutes of Health, Bethesda, Maryland, 20014. Telephone: (301) 496-4686.

The Surgeon and Pastoral Care

Chaplain Lynwood L. Swanson of the Wilmington Medical Center delivered a paper entitled "Surgeon's Guide for Pastoral Care Services" to the 57th Annual Clinical Congress of Surgeons.

Among Chaplain Swanson's comments were the following: "After the surgeon has made his initial presentation to the patient, describing the condition, making his diagnosis and offering his suggestions, most patients have four questions taking one form or another: 1) It it serious? 2) Is the operation dangerous? 3) Will I get well? 4) Am I going to die?

"There are at least six specific functions of the chaplain as he seeks to minister to the surgery patient. 1) He seeks to listen to the apprehensions of the surgery patient, and perhaps, philosophize about them. 2) He is alert for guilt or despair, and seeks to aid the patient in his confession. 3) He cares for the family, often acting as an advocate between family, patient, staff and surgeon. 4) By means of his presence and often his touch, he helps deny the isolation, the loneliness that often comes before and after surgery. 5) He is well acquainted with the dynamics associated with loss and grief. He knows how to be with those in the midst of depression and anxiety. 6) He often acts as a resource person, in the matter of rehabilitation.

"In summary then, the chaplain becomes part of the surgical team as he provides, through his stance of concern and availability, care to all families and patients undergoing stress and questioning related to the crisis of illness and surgery that brings them to the hospital. His task is to bring the full meaning of "health" to the patient — that being integrity, (at-onement) wholeness, and holiness."

CLINICAL NOTICES AND MEETINGS

Malpractice Program

The Practising Law Institute this summer will be conducting a program entitled *"Medical and Dental Malpractice."* It will take place in Cleveland, August 14-15, 1972, and New York City, September 1-2, 1972. Fee for course including course handbook: $100. Make check payable and mail to: Practising Law Institute, 1133 Avenue of the Americas, New York, N.Y., 10036. (212) 765-5700.

Clinical Gastroenterology Course

A Postgraduate Course on *Clinical Gastroenterology,* will be held September 10-16, 1972 at the Castle Harbour Hotel, Tucker's Town, Bermuda. For further information contact: Vernon M. Smith, M.D., Director, 301 St. Paul Place, Baltimore, Md., 21202.

Rhinological Workshop and Annual Meeting

The American Rhinologic Society and Louisiana State University School of Medicine present Workshops and Seminars on *Respiratory Physiology, Rhinomanometry* and *Corrective Nasal Surgery;* September 19-21, 1972, New Orleans, La. The American Rhinologic Society will hold its Eighteenth Annual Meeting on Friday, September 22, 1972 at New Orleans/Marriott, New Orleans, La. For registration or information contact: Dr. Gerald F. Joseph, 3622 Government Street, Baton Rouge, La., 70806.

Radiation Conference

The U.S.P. Conference on Radiation Sterilization will be held in the Statler Hilton Hotel, Washington, D.C. on October 9-10, 1972. Additional information can be obtained from Robert H. Henry, Director of Professional Affairs, United States Pharmacopeial Convention, Inc., 12601 Twinbrook Parkway, Rockville, Maryland, 20852.

Interstate Postgraduate Assembly

Th 57th Annual Scientific Assembly of Interstate Postgraduate Medical Assn. will be held at the Washington- Hilton Hotel, Washington, D.C., November 13-16. The fee is $25 for 26 hours of instruction, (AAFP approved). For further details write to Alton Ochsner, M.D., Program Chairman, Interstate Postgraduate Medical Assn., P.O. Box 5445, Madison, Wisc., 53705.

CLASSIFIED AD SECTION

Advertisements under the Classified Ad Section are charged at the rate of 30 words or less, set solid. One insertion $4.00. Call the Journal office, 658-7596 for further information or placement. All advertisements are payable in advance. The Editorial Board reserves the right to edit copy. Closing date for new copy is the first of the month for inclusion in the current issue.

Classified advertisements of a professional nature are free to members.

SCHOOL HEALTH: Graduate of Case-Western Reserve University, 1962. Licensed in Ohio. Available September 1, 1972.

MEDICAL DIRECTOR: Director, coordinator or associate in cost effective medical computer application. Board Certified in Anatomical and Clinical Pathology. Graduated from University of Iowa, 1943. Interested in multi-phasic testing and HMO programs. Available September 1, 1972.

INTERNIST: Graduate of Nishtar Medical College, Pakistan, 1964. ECFMG. Interested in group or associate practice. Available immediately. Board Eligible.

PATHOLOGIST: Graduate of Faculty of Medicine, Belgium, 1960. Board Certified. Solo or associate practice.

INTERNIST: Graduate of University of Chicago, 1967. Board Eligible. Interested in institutional medicine or cardiology. Available immediately. Licensed in District of Columbia.

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EXPERIENCE WITH THERAPEUTIC ABORTION CLINIC

Methods and Complications

• Experience with the Therapeutic Abortion Clinic at the Wilmington Medical Center is presented, and the method of performing abortions and the complications are discussed. Suction curettage prior to 12 weeks' gestation is recommended.

Robert Egdell, M.D.

This paper describes the initial experience of the Therapeutic Abortion Clinic at the Wilmington Medical Center. This report summarizes a six-month experience (January, 1971 - June, 1971) and attempts to identify factors that influence the success of various procedures.

Material: 236 patients were interviewed in the Therapeutic Abortion Clinic during the six-month period of study; 212 patients were approved for abortion and 24 were refused. (Table I)

Of those who were not approved, length of gestation greater than 20 weeks made pregnancy termination legally impossible in fourteen cases, two patients failed to get the appropriate psychiatric evaluation, two had spontaneous incomplete abortions, four were found to be not pregnant, and two changed their minds.

Of the 212 patients approved by the Therapeutic Abortion Committee, 201 underwent pregnancy termination and 11 did not. Of those approved who did not have an abortion, one had spontaneous incomplete abortion, two were found to be not pregnant and eight decided against the procedure.

The age range of the patients undergoing therapeutic abortion was 13 to 39 years with an average of 21.3 and a median of 21. The gravidity ranged from 1 to 11, with an average of 2.8 and a median of 2. Parity of the patients ranged from 0 to 10, with an average of 1.6 and a median of 1. 41% were white, and 59% were non-white.

The results in this paper refer to the 190 patients who underwent therapeutic abortion during the first six months of 1971.

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TABLE I

Patients Requesting Abortion

	Jan.	Feb.	Mar.	Apr.	May	June	Total 1-6/71	%
No. Interviewed	24	22	39	57	45	49	236	100
No. Refused	4	3	4	4	2	7	24	10
Approved and done	19	18	33	50	41	40	201*	85
Approved and not done	1	1	2	3	2	2	11	5
Age	15	16-20	21-25	26-30	31-35	36-40	Avg.	Median
Number	24	68	75	23	7	4	21.3	21
Gravidity	1	2	3	4	5	6 or more	Avg.	Median
Number	74	36	29	27	17	18	2.78	2
Parity	0	1	2	3	4	5 or more	Avg.	Median
Number	81	33	34	22	19	12	1.58	1

* Includes patients interviewed in June but procedure performed in July.

The number of abortions performed by the Therapeutic Abortion Clinic increased significantly in the first six months of 1971. (Table II) During 1970, 68 patients were aborted through the Clinic; the first six months of 1971, 190 were aborted. The percentage of therapeutic abortions performed by the Therapeutic Abortion Clinic has increased from 13% of the total abortions performed in the Medical Center in 1970 to 36% in the first six months of 1971. The abortion rate per 1000 live births among clinic patients increased from 69 in 1970 to 465 in the first six months of 1971.

Evaluation of Patients

Patients seeking therapeutic abortions are referred to a social worker, who interviews them to determine their age and residency, and to confirm pregnancy by means of a pregnancy test. The patient is then referred to a Therapeutic Abortion Clinic and the Psychiatric Clinic. At the initial examination, pregnancy is confirmed, gestation estimated and a determination made of the best procedure for abortion. At this time Papanicolaou smear and culture of the cervix for N. Gonorrhea are taken. After the patient is approved by the Therapeutic Abortion Committee, she returns to the Therapeutic Abortion Clinic to be examined by the attending gynecologist, who decides if the procedure decided upon by the resident is appropriate. The patient is then scheduled and the following lab work obtained: hemoglobin, hematocrit, VDRL, urinalysis, Rh and Rhogam workup, if indicated.

Procedures

Dilatation and Suction Curettage

This is mainly performed on patients who are no more than 12 weeks of gestation calculated since the last menstrual period. They are kept NPO after midnight the night before surgery, asked to void before going to the operating room, and given meperidine 50 mg and atropine 0.4 I.M. as premedication.

The patients are placed under general anesthesia (preferably not halothane or other agents known to cause excess uterine relaxation). After the vagina is prepared with Betadine, the patient is draped, and pelvic examination performed. A weighted speculum is inserted in the vagina and the anterior lip of the cervix grasped with a Jacobsen tenaculum. After the uterus is sounded, 10 cc of 1.0% xylocaine is injected into both sides of the cervix and the cervix is dilated with No. 12 or No. 14 Hegar dilator, if possible. The pro-

TABLE II
Abortions Performed

	1/71	2/71	3/71	4/71	5/71	6/71	1-6/71 Total	1970 Total
Total Abortions	72	78	88	107	96	95	536	572
Clinic Abortions	21	18	24	43	44	40	190	68
% Clinic Abortions	29	23	27	40	46	42	36	13
Clinic Deliveries	93	66	75	56	60	59	409	995
Clinic Abortions 1000 Deliveries	226	273	320	768	733	678	465	69
								%
D&C without Tubal	8	8	9	72	26	20	93	48.9
Inpatient	8	5	0	2	0	0	15	
Outpatient	0	3	9	20	28	78		
D&C and Tubal	1	4	5	5	4	3	22	11.6
Total D & C	9	12	14	27	30	23	115	60.5
								%
Hysterotomy	1	0	0	0	0	0	1	.5
Hysterotomy and Tubal	5	1	2	1	1	0	9	4.7
Total Hysterotomy	6	1	2	1	1	0	10	5.3
								%
Saline	6	4	7	11	7	11	46	24.2
Saline and Tubal	0	1	1	4	7	6	19	10.0
Total Saline	6	5	8	15	14	17	65	34.2

ducts of conception are removed with a Sorensen suction curette, care being taken not to exceed 25 inches Hg vacuum pressure.

The procedure is completed by using ring forceps and a sharp curette to check the interior of the uterus for possible remaining products of conception. Throughout the procedure an I.V. of 5% glucose in Ringer's lactate with 20 units of oxytocin is kept running. After full dilatation, 0.2 mg methylergonovine meleate is given I.M.

When tubal ligation is to follow, the patient is prepared abdominally and re-draped. A Pfannenstiel incision is made, and the Pomeroy salpingectomy employed.

Hysterotomy

This procedure is chosen for patients greater than 12 weeks pregnant but less than 16 weeks pregnant who requested tubal ligation or when saline injection produced a missed abortion.

A Pfannenstiel incision is made, the bowel packed off, and two traction sutures placed in the fundus of the uterus. A vertical incision is made in the fundus and the products of conception removed manually. After the uterus is empty, the cervix is dilated with a Kelly clamp. The uterine incision is closed with O chromic catgut in a continuous interlocking stitch, followed by a Lambert inverting stitch. Partial salpingectomy, using the Pomeroy technique, is performed prior to closing the incision.

Saline Induced Abortions

These are performed on patients more than 16 weeks pregnant.

Prior to amniocentesis, the abdomen is prepared with Betadine and draped. An area approximately two inches above the symphysis in the midline is anesthetized with 5 cc 1.0% xylocaine. The amniocentesis is performed with a 3½ inch, 17 gauge Thouy needle directed slightly caudad, with the bevel positioned cephalad. The needle is inserted to the hilt and the stilet then removed. As the needle is withdrawn a flow of amniotic fluid is established. A connecting tubing is used to siphon off the fluid. After 200 cc has been removed, or the flow slowed, 10 cc of 20% saline is injected. If free flow continues, a total of 200 or 20% saline is injected. Sometimes it is necessary to move the needle to reestablish flow. If free flow is not established, no more saline is injected. Following the injection, the stilet is replaced in the Thouy needle and the needle removed.

The patients are observed for twenty minutes after injection and are then sent home with the following instructions:

"Return to the hospital if

1. Pain is not relieved with the four meperidine 50 mg tablets given.
2. Temperature gets higher than 100°F.
3. Bleeding is more than with a usual menstrual period.
4. Fetus or placenta passes at home. Bring anything that passes to the hospital.

"If nothing happens in three days, call the hospital. Do not come to the hospital as soon as bag of waters breaks."

Stimulation with oxytocin is used only when excessive bleeding occurs.

Results

Dilatation and suction curettage was performed in 115 cases. (Table II) 37 of these were done as inpatients and 70 as outpatients. Of the inpatients, 22 had tubal ligation. During 1970, one uterine perforation occurred. In the first six months of 1971 there were no uterine perforations. However, one patient required transfusion because of operative hemorrhage, and three developed endometritis. There were three urinary tract infections and three wound infections following tubal ligation accompanying D & C. Morbidity after D & C was 4.3%; with tubal ligation, it was 27%. (Table III)

Hysterotomy was performed in ten cases and was associated with tubal ligation in nine cases. (Table II) Five patients developed dysfunctional uterine bleeding secondary to endometritis; two of these required D & C after medical management failed and two required transfusion. The hysterotomy morbidity rate for 1971 was 70%. (Table III)

Saline injection was used to induce abortion in 65 patients. (Table II) Nine attempts at amniocentesis were unsuccessful at first attempt, but were successful when repeated in two weeks. Four patients failed to abort after successful amniocentesis and saline injection. Of these, two aborted after repeat injection, one had a D & C and one had hysterotomy. The average time to passage of the fetus was 30 hours, with a range of 12 to 120 hours and a median of 25. Most placentas passed within four hours after abortion of the fetus, but eight patients required D & C. One patient developed endometritis prior to abortion; one developed pyometra; one developed endometritis following completed abortion; one patient aborted through the posterior aspect of the cervix and developed a cervicovaginal fistula; and one patient developed abdominal pain from leakage of hypertonic saline into the peritoneal cavity. Nineteen patients had tubal ligation following saline induced abortion. The saline induced abortion morbidity rate was 21.5%; excluding D & C's, it was 9.2%. (Table III)

Discussion

The increase of therapeutic abortions in

TABLE III
Clinic Abortion Complications by Procedure

D & C alone	Endometritis	3
	Transfusion required	1
		4
D & C + tubal	Wound infection	3
	U. T. I.	3
		6
Total D & C's		10
Hysterotomy	Endometritis	5
	Transfusion required	2
		7
Saline	Missed Attempt	9
	Incomplete requiring D & C	8
	Miscellaneous	6

Delaware has resulted from the change in the Delaware State Abortion Law in 1969. Similar increases have been seen in New York, California, Maryland and other states, the degree of change varying with the provisions of the law with regard to indications and residency requirements.[1,2]

The patients who underwent pregnancy termination at the Therapeutic Abortion Clinic had a similar age range, gestational age and parity as patients reported in the literture.[1-4] The change in the rate of abortions per 1000 deliveries from 69 in 1970 to 465 in the first six months of 1971 represents a faster change than experienced in most states, but this figure is misleading because of the acceptance by the Therapeutic Abortion Clinic of patients who may otherwise have been private patients.

The technique for dilatation and suction curettage was decided upon after review of the Lalor Foundation book of Uterine Aspiration Procedures.[5] We have found this procedure to have a low complication rate, and we agree with Margolis that it is a safe outpatient procedure.[6] The benefits of paracervical blocks have been questioned by some, but we have found them most useful in nulliparas and in multiparas with 10-12 week pregnancies. The use of oxytocin and methylergonovine has seemed to decrease operative blood loss, but we agree with Hall who thinks that time of operation is also important.[4] Operative blood loss requiring transfusion is rare, and when it occurs, it requires hospitalization for observation and transfusion. Endometritis and irregular bleeding are easily treated on an outpatient basis. Uterine perforation did not occur in this series.

The technique for amniocentesis and saline induced abortion was decided upon after reading Droengemueller's and Schulman's papers.[7,8] After a limited experience with 50% glucose we decided to use 20% saline, which proved more effective. Unless they requested hospitalization, patients have been sent home following injection. Our complication rate indicates that outpatient amniocentesis and saline injection are safe as long as the patient returns as instructed. The use of high concentration oxytocin drip for inevitable and missed abortions has been reported by Toaff.[9] Others have used oxytocin successfully along with saline injections for induced abortions. One of our patients aborted through the posterior aspect of the cervix, and we have abandoned this procedure.[1,2] Compared with hysterotomy, saline injection, even if dilatation and curettage is required, seems to us superior. The report of Kushner of 3-4% morbidity with saline injection as compared to 9-24% morbidity with hysterotomy, is typical.

Hysterotomy has been recommended by most authors only when tubal ligation is also performed.[10] This opinion is reflected by the lower rate of hysterotomies than saline injections in studies reviewed.[1,2] Hospital stays are longer and complication rate is higher after hysterotomy than after saline injection. With the current increasing use of laparoscopy, saline injection and tubal resection are replacing hysterotomy and tubal ligation.

There is room for improvement in the Therapeutic Abortion Clinic. Outpatient dilatation and suction curettage might be done effectively and more inexpensively without general anesthesia as suggested by Strausz and Margolis.[3,6] We have recently used laparoscopy for tubal resection accompanying pregnancy termination. The use of prostaglandins may eventually be substituted for surgical means of pregnancy termination in some cases.

Summary

1. We have reviewed our experience in a Therapeutic Abortion Clinic for six months (January through June 1971).

2. Dilatation and suction curettage is the procedure of choice for pregnancies of 12 or fewer weeks' gestation.

3. Dilatation and suction curettage is a safe outpatient procedure.

4. Intrauterine hypertonic saline injection is the procedure of choice for pregnancies from 16 to 20 weeks' gestation.

5. Pregnancies of 13 to 15 weeks' gestation should wait until the 16th week for saline injection.

6. Hysterotomy has the highest morbidity of all procedures and should be performed only when accompanied by tubal ligation.

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* * *

"Misconceptions about American health care have been deepened by inept and statistically fallacious comparisons between mortality and morbidity here and in national health insurance countries whose people and way of life are not comparable to our own," E. J. Faulkner said at the Congress on Administration of the American College of Hospital Administrators. He said: "When disease results from malnutrition, slum housing, filth, ignorance and pollution of the environment, it is not going to be eliminated by tinkering with our hospital and medical arrangements. When disease is due to overindulgence in food, tobacco, liquor and drugs, it will not be diminished by a national program of health insurance however comprehensive and costly. When rising health care costs are more attributable to general inflation stemming from unwise fiscal and monetary policies and wage increases that exceed gains in productivity than to waste or abuse by the providers of care, it makes little sense to urge major surgery on the health care delivery system." Faulkner is a past chairman of the Health Insurance Council and was the first president of the Health Insurance Association of America.

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CURRENT MANAGEMENT OF PEPTIC ULCER DISEASE

Part II

S. P. Bralow, M.D.

Indications for Hospitalization

The average ulcer patient can be managed on an outpatient basis, but those with severe symptoms, or who are under marked emotional tension, should be hospitalized. The change in environment from business and social responsibilities frequently leads to a remission within 24-48 hours. This remission occurs long before there is a significant degree of healing of an active ulcer crater or control of the acid in the gastric contents. Sedatives and tranquilizers should be given freely.

Since gastric ulcer patients are all suspect for malignancy, it is wise to hospitalize them. They can be kept under strict observation and maintained on a standard diet. Various parameters suggesting benignity should be evaluated. It has been customary to keep such patients in the hospital two to three weeks to check the healing time under the best circumstances. Medical management should be continued until the decision is made that malignancy has not been ruled out or a failure of healing has been observed.

Management of Hemorrhage

Although upper gastrointestinal hemorrhage is frequently due to peptic ulcer, other conditions should be considered in patients with hematemesis or melena. Bleeding from erosive gastritis apparently occurs more frequently than from either duodenal or gastric ulceration. (Table 1) Early endoscopy should be carried out within three to five days of the hemorrhage, or erosive gastritis may be missed. In cases of melena without hematemesis, the passage of a gastric tube may help localize the site of bleeding to the stomach. Intubation will also permit iced water or saline lavage to help control erosive gastritis. Occasionally a Sengstaken-type tube may be used to help differentiate bleeding esophageal varices from lesions in the stomach. These tubes should be used cautiously to prevent aspiration pnuemonia or rupture of the esophagus.

In patients with recurrent upper gastrointestinal hemorrhage and in whom previous studies have failed to define the site of bleeding, celiac and superior mesenteric arterio-

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Table 1

Causes for Acute Upper Gastrointestinal Hemorrhage Using Early Endoscopy

39	Erosive Gastritis
29	Duodenal Ulcer
28	Esophageal Varices
6	Acute Gastric Ulcer
4	Chronic Gastric Ulcer
28	Undiagnosed
16	Other Causes
—	
144	Total Bleeding Episodes

graphy may be helpful. The bleeding should be brisk, about one ml per minute, when the arteriogram is attempted. Newer techniques employing vasoconstrictor agents perfused through the arterial catheter have been used to control continuous esophageal or gastric bleeding.

The initial treatment of moderate gastrointestinal hemorrhage is medical. The essentials are mild sedation to overcome apprehension and replacement of blood loss as rapidly and as adequately as possible. (Table 2) Operation should be performed when the hemorrhage is massive and cannot be corrected by intravenous blood replacement. Patients who are not out of shock following two to three units of whole blood, or in whom the hematocrit does not return towards normal, are candidates for surgery, regardless of their age. Patients who rebleed after the initial episode has been brought under control in the hospital should be considered for surgery. A patient with a large ulcer crater, either in the stomach or the duodenum, with a history of previous hemorrhage should also be considered a surgical candidate. The persistence of severe epigastric pain in the face of massive bleeding suggests a penetrating lesion, and emergency surgery is warranted. As soon as the patient stops vomiting, milk and cream feedings may be instituted. The addition of large amounts of aluminum hydroxide has been feared because of the risk of blood accretions and intestinal obstruction. As soon as feasible, the patient should be studied for other systemic diseases associated with hemorrhage, bleeding diathesis, and liver abnormalities.

Management of Perforations

About 10% of the patients with chronic peptic ulcer will suffer a perforation. The diagnosis is usually obvious with board-like rigidity of the abdomen and a past history of ulcer. Occasionally, the pain may have shifted from the epigastrium to the right lower quadrant and a diagnosis of appendicitis is considered. Because patients with a chronic ulcer have many adhesions to surrounding organs, a perforation may be walled off with subsidence of symptoms and abdominal findings within 8-10 hours. Plain films of the abdomen in the erect or decubitus position may still show the characteristic free air under the diaphragm. Elevated serum amylase suggests associated acute pancreatitis. If signs of perforation are present, surgery should not be

Table 2

Management of Upper Gastrointestinal Bleeding Ulcers

1. Replace Blood Volume
    A. Central Venous Pressure—Monitoring
    B. Correct Shock — Ringer's Lactate, Blood
2. Diagnosis
    A. Intubation—Iced Saline Lavage, Sengstaken
    B. Early Endoscopy—Erosive Gastritis
    C. Limited Upper G.I. X-Ray
    D. Celiac and Superior Mesenteric Arteriography
    E. String Test
3. Medical Treatment
    A. Sedation
    B. Antacids
    C. Diet
4. Indications for Surgery
    A. Continued Shock—After 2 to 3 Transfusions
    B. Re-Bleed
    C. Previous Hemorrhage and Large Ulcer Crater
    D. Persistence of Pain

avoided because of fear of increased morbidity associated with pancreatitis. Intravenous cholangiography might be helpful in differentiating between acute pancreatitis, cholecystitis, and a penetrating or perforating ulcer. Patients should be prepared for surgery by gastric intubation and continuous suction. They should be given intravenous fluids to make up for the volume loss and also to correct electrolyte disturbance. If signs of peritonitis have occurred or if the patient has perforated after eating a large meal, antimicrobial treatment may be considered.

Management of Obstruction

Obstruction to the outlet of the stomach may be either acute, resulting from edema and pylorospasm, or it may be gradual, as the result of chronic ulcer disease with cicatrization. Chronic duodenal ulcers tend to obstruct more than gastric lesions, but occasionally an antral ulcer may produce enough deformity of the distal stomach to produce an organic obstruction. Transient obstruction to the outlet of the stomach may occur with benign ulcers high up in the fundus. They may also be secondary to problems such as gastric atomy and diabetes. The longer and the more gradual the obstruction, the fewer symptoms are associated with it. Pain and vomiting are common manifestations of acute obstruction. Deformity of the distal stomach frequently simulates carcinoma.

The treatment is to decompress the stomach with continuous aspiration and then determine whether the obstruction is acute or chronic in origin. Obstruction secondary to acute edema will subside within three to five days of continuous suction. If the narrowing and obstruction persists, tight cicatrization or malignancy should be considered. Usually gastric distention is greater with benign obstruction. Persistent retention of volumes greater than 500 ml indicates the need for surgical treatment. Severe, extracellular fluid deficits, hypokalemia, and hypochlorenic alkalosis should be corrected before surgery. If the pyloric obstruction is relieved, medical management may be pursued, despite marked deformity of the area. Anticholinergic drugs, however, remain contraindicated. If residual volumes increase as the diet is increased, surgery is the treatment of choice.

Surgical Treatment

An uncomplicated peptic ulcer is best treated by medical means despite the fact that no specific therapy has yet been developed. The natural history of the disease suggests that healing will take place despite a wide range of dietary regimens and therapy. Surgery should be restricted to the complications of peptic ulcer or to the rare patient who is so significantly crippled by an uncomplicated lesion that his productivity is hampered. In the past, diet has become so limited that patients requested elective surgical procedure to escape these restrictions.

The surgical treatment of peptic disease has advanced over the past two decades to the point where it is safe and effective. The elective procedures carry a mortality of less than 2%. However, the morbidity following a partial or hemigastrectomy with vagotomy can approach 25%. These problems include dumping syndromes, inability to regain weight, anemia, and diarrhea. The incidence of these complications is said to be decreased with vagotomy and pyloroplasty, but the risk of ulcer recurrence is greater. Vagotomy and drainage procedure of pyloroplasty, gastrojejunostomy,

TABLE 3

Early and Late Complications of Surgery for Gastric Ulcers

1. Early Complications
    - A. Suture Blow-Out (7 to 10 Days)
    - B. Post-Operative Pancreatitis
2. Late Complications
    - A. Stomal Dysfunction
        - 1. Edema—2 to 4 Weeks
        - 2. Marginal Ulceration
    - B. Gastro-Jejuno-Colic Fistula
3. Post-Gastrectomy Syndrome
    - A. Weight Failure
    - B. Anemia—Iron Deficient, Macrocytosis
    - C. Dumping
        - 1. Early—Hyperosmolar Distention
        - 2. Late—Reactive Hypoglycemia

or antral resection are recommended for ulcer patients with hyperacidity or total acid outputs less than 35 mEq/hr. Vagotomy with hemigastrectomy or subtotal resection are considered the procedures of choice for patients with acid output greater than 50 mEq/hr. Total gastrectomy is probably necessary when a "Zollinger-Ellison Syndrome" is present, whether a pancreatic tumor is found or not. The final decision as to procedure usually depends on the surgical findings.

Early complications to surgery may arise seven to ten days following a gastric resection (Table 3). A portion of the suture line may give way causing a localized peritonitis. "Blow-out" of a suture line of the duodenal stump can occur in severe complicated duodenal ulcerations. It can be minimized if exterior drainage by suturing the stump around a drain tube is done. Postoperatively, paincreatitis may develop, either from a "blow-out" of a duodenal stump, or following overzealous attempts to remove an ulcer that has penetrated into the head of the pancreas. A late complication may develop if the afferent limb is made too long and stasis of pancreatic and duodenal juice occurs. Stasis of secretions contaminated with bacterial overgrowth may lead to a macrocytic anemia and steatorrhea similar to a blind-loop syndrome. These conditions can be corrected by treating the bacterial contamination with specific antibiotics or surgically correcting the long afferent loop.

Stomal dysfunction can be a very frustrating postoperative experience. Complaints of nausea and vomiting with clear liquid postoperatively should suggest this possibility. Edema of the stoma is a usual cause of the obstruction rather than adhesions, kinking, or faulty surgical technique. Continuous suction should be reinstituted for periods up to two weeks. Occasionally, the stomal edema does not clear completely within a month. The tendency is to reoperate too early with the mistaken diagnosis of kinking in the loop. Stomal dysfunction may result from a marginal or stomal ulcer as well. These lesions usually occur on the jejunal side of the anastomosis in about 1% of the postgastrectomy cases. The symptoms are similar to those of a recurrent ulcer, and initially medical treatment should be prescribed. If the marginal ulcer does not heal in a short period of time, surgical intervention should be considered.

Many patients, following gastric surgery, fail to regain their weight and will stabilize at 10 to 25 pounds below their optimum body weight. Usually, objective measurements for malabsorption of fat or protein indicate only minimal losses. When frank steatorrhea in a postgastrectomy patient occurs, bacterial overgrowth is suggested. Usually patients with a mild degree of postgastrectomy malabsorption do not require further surgical intervention. When particularly severe, a jejunal loop interposition may be helpful. Simple diarrhea may follow a vagotomy procedure but rarely becomes troublesome. A great number of patients following gastric resections have mild microcytic anemia with low serum iron and a defect in dietary iron absorption. If the gastritis in the gastric remnant is marked, the loss of intrinsic factor may cause poor absorption of Vitamin B-12 and a macrocytic anemia as well.

Postgastrectomy dumping may occur during the first few months postoperatively. It is characterized by weakness and sweating immediately after eating large meals. Many of the patients feel so weak after eating they lie down for 30 minutes. These symptoms can be provoked by a high carbohydrate meal with large amounts of fluid during the meal. Some patients complain of sweating, tachycardia, hyperperistalsis, and diarrhea two or three hours later. It is felt that the initial symptoms are caused by the passage of hyperosmolar solutions into the upper jejunum, resulting in distention of the lumen as fluid from the extracellular compartments flow into the lumen to maintain osmolality. Jejunal distention might release serotonin or other active kinins. The late symptoms are due to a functional hypoglycemia secondary to insulin released by the early spike in blood sugar following a carbohydrate meal. Symptoms of dumping can be relieved partially by eating small, frequent meals low in sugar and starch. Fluid should be restricted during the meal. Anticholinergic drugs about 30 minutes before meal time may be helpful in slowing down gastric emptying. Increase in dietary fats also

TABLE 4

Recurrence Rates of Peptic Ulcers After Treatment

Medical Management

1. Duodenal Ulcer and Gastric Ulcer—Approximately Same
    A. 1-2 Yrs. Follow-Up = 20-40%
    B. 2-10 Yrs. Follow Up = 40-80%

Surgical Therapy

1. Gastric Ulcer Almost 0%
2. Duodenal Ulcer
    A. Vagotomy and Hemigastrectomy 2-4%
    B. Gastrojejunostomy 20-30%
    C. Vagotomy and Pyloroplasty 15% Still Preferable in Malnourished or Elderly.

helps decrease emptying time. Less than 1% of patients have such severe symptoms that they require a surgical procedure such as jejunal interposition, conversion of Billroth II to Billroth I, or a Roux-en-Y anastomosis.

Recurrence Rates

Even the most cursory review of the literature would indicate that no medical therapy has changed the recurrence rates of duodenal or gastric ulcer (Table 4). The subject has not been completely studied, however. It is difficult to define recurrences. In common clinical experience, 80% of patients admitted to the hospital with duodenal ulcer will become asymptomatic within one week. Craters seen on x-ray will heal within two months. However, there is a 50% chance of recurrence within two to ten years in patients with duodenal ulcer. Recurrence in patients with gastric ulcers is 59%. Because of this frequency of recurrence, it is difficult to speak of a medical cure for peptic ulcer. The adage "once an ulcer, always an ulcer" has merit.

Surgical treatment of peptic ulcer is directed to controlling the complications and to preventing recurrences. Following vagotomy and a subtotal- or hemigastrectomy the possibility of recurrence is from 2 to 4%. About 20 to 30% of patients with simple gastrojejunostomy will develop a marginal ulcer within ten years. Vagotomy and pyloroplasty have become popular because of the decreased morbidity but are associated with a 15% risk of ulcer recurrences. Despite the increased risk of recurrences associated with limited surgical procedures, many surgeons believe such operations are preferable in malnourished or elderly patients.

Conclusions

It is extremely difficult to review a subject as controversial as peptic ulcer and arrive at any definitive conclusions. The disease has plagued mankind as far back as Hippocrates and still defies definition as to etiology, pathophysiology, and specific treatment. Much progress has been made in understanding the pathophysiology of gastric secretion, but exactly how this relates to peptic ulcer disease is not clear. Multiple dietary and therapeutic regimens have been attempted in the treatment of peptic ulcer with no clear-cut benefit over the disease's spontaneous course of healing and recurrences. Although surgical treatment, when indicated, decreases the recurrence rates significantly, patients frequently have other postoperative problems attributed to the altered physiology.

Peptic ulcer can be considered a constitutional disease for which no cure is available short of surgery. Therapy, as presently employed, is symptomatic and should allow the ulcer patient to work and enjoy life. Many of the 10 million sufferers in this country have been handicapped by tremendous losses of time and money. Much more needs to be done before the roots of the disease can be treated and its cause can be abolished. The concentration of effort by investigators on the role of acid and pepsin may have been misplaced. The dictum, "no acid-no ulcer," may be valid, but the role of acid and pepsin may be of a secondary nature. More needs to be known about mucosal resistance to injury and mucosal cell kinetics. Although the literature on peptic ulcer is voluminous, this disease remains an enigma with no break-through or new approaches in sight.

Part one of Dr. Bralow's paper, including a bibliography, appeared in the July issue of the *Delaware Medical Journal.*

Highlights

COMPUTER ELECTROCARDIOGRAPHIC PROCESSING

Cesar A. Caceres, M.D.—*Adjunct Professor, School of Engineering and Applied Science, The George Washington University. Adapted from a presentation to the Department of Medicine, Wilmington Medical Center, February, 15, 1972.*

Computer Assisted Analysis

Electrocardiograms taken each year are becoming so numerous that manual means of analysis are becoming impractical. Conventional analysis requires a significant amount of the physician's scarce time. Further, the cost for ECG's is rising because of increases in the physician's office expense overhead as a result of his being over burdened with routine tasks that increased volume produces. The physician using computer processing can solve these problems.

By automatic processing, unit charges can be kept stable. As volume increases, office overhead does not increase and may decrease. Thus, as the physician saves time, income generated from electrocardiography does not have to be diverted to overhead. The printouts from automatic analysis improve and simplify record keeping. Secretarial time is diminished. The technician's time can be more effective with simplified machines. Capitalization for equipment can in many instances be eliminated.

Further, automated electrocardiograms provide a more suitable data base for research. They offer an advantage over manual methods in that the computer is more objective and highly consistent.

Background

Electrocardiogram analysis by computer has begun to pass from the research phase to a validated, standardized, cost-effective technique with defined quality of interpretations. The automatic capability is now readily available to physicians.

Several ECG computer programs have been or are in development for many groups. Several hardware system components for ECG analysis have been developed and made commercially available, particularly through the efforts of the US Public Health Service's former Medical Systems Development Laboratory (MSDL). That organization coordinated the efforts of many concerns and fitted them into an overall integrated system design as needed in order to secure the inherent advantages of automatic analysis.

In dealing with automated electrocardiographic analysis, there is a need to consider the basic system, from data acquisition to storage and retrieval, with the central point being the stability of the software. An optimum system to service both individual physicians and hospital-based services at the requisite cost and quality standards requires in-depth knowledge of the capabilites and limitations of available hardware/software combinations.

Each community and user have specific requirements for ECG analysis which may require modification and extension of the basic systems design. Data input from various classes of ECG's (stress, resting diagnostic, screening or resting), problems due to comparison of tracings or arrhythmias and the long-term storage requirements are other modifiers to be taken into consideration. The geographical location of physicians is pertinent. We need to implement solutions to these typical problems, along with its provision of computer services.

Any automated system requires quality control. The system must be evaluated for repeatability, for signal fidelity, noise, equipment stability, precision, and cost. Quality

ECG AND COMPUTER INTERPRETATION

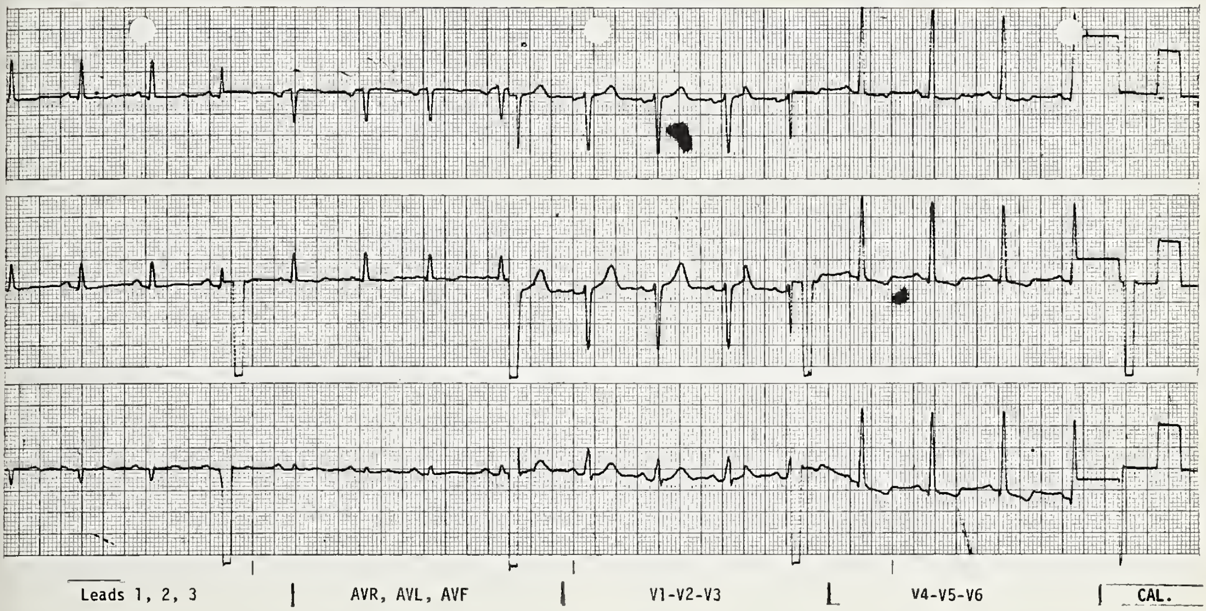

Figure 1

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NO PATIENT HISTORY ON FILE

PR  .15 QRSL  .08 AXIS P   41 QRS    9  T    0  ANGLE STT    0  RATE = 89— 93
QT  .37 QRSU  .09 AXIS Q  260 S      0  ST 197  ANGLE QRST   0  CAL  = 1.01 MU
        LOW VOLTAGE T WAVES             • NON DIAGNOSTIC T WAVE CHANGES

        QRS AXIS RANGE 9 TO —9          • HORIZONTAL AXIS

                                        • ATYPICAL ECG

                                  ________________________M.D.
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Clinical Systems Associates, Inc. — Washington, D.C. February 24, 1972, 8:55 A.M.

control techniques require careful methodological documentation that has to be included in the overall system design.

Computer analysis of ECG has as its prime advantages speed and reproducibility, not necessarily lesser cost. In the first decade of computer analysis of electrocardiograms (CAE), technical limitations precluded electronic analysis of arrhythmias, but at least the twenty or so most common arrhythmias will be defined by CAE within the next few months.

Computer analysis of an electrocardiogram follows essentially the same pattern as does a human electrocardiographer, the data being first changed from an analog (wave form) to a digital (numerical) signal. However, the analysis of a single ECG requires a program of 14,000 separate instructions into which approximately 150 or more man-years of developmental work have been poured to date.

One of the spin-offs of the CAE has been the definition by cardiographers of abnormalities which in the past were subjective rather than quantitative statements. In addition, humans tend not to be repetitive. Readers vary from each other and even from themselves; the computer always reads identical signals in an identical fashion unless it is reprogrammed to read differently.

Recommendations for combination of conventional ECG/CAE systems include: careful observation of official criteria and standard terminology at all heart stations, use of the CAE system in series with the M.D., consideration that the computer is correct until proven wrong (physicians have a high percentage of interpretative error), performance of validating studies as necessary until the physicians become convinced of the validity of CAE.

The proliferation of CAE will free the physician from routine tasks and give him better data while guarding him against the major most serious ECG error, the false negative which runs as high as 20% in several series. CAE will also serve a growing role in preventive medicine and the storage and standardization of data, and thus increase the level of the quality of care to all patients.

Approach

A practical system for resting diagnostic or screening, stress and monitoring electrocardiogram information should have the following basic subsystems: signal acquisition, transmission, preprocessing, processing, display, storage and retrieval, and accounting.

Signal Acquisition

The first efforts for computer data acquisition prototypes started in 1958. These are still the basis for a number of commercial acquisition units which are now available.

New acquisition units are 3-channel machines which permit simultaneous lead acquisition and are designed for computer compatibility. They either transmit an analog signal by telephone or record the ECG signal on analog magnetic tape. Both types are mobile units. The analog acquisition units produce tape for "batch processing" which in certain instances produces economies. The choice depends on individual economic considerations, based on "turn-around" time requirements, volume of ECG's, operational efficiency, simplicity, and unit costs. Rapid turn-around time (ie, real time) is a desirable goal, but not required in some applications. Volume of tracings is important.

Transmission

MSDL helped stimulate telephone development at AT&T's 603 series of Dataphones in the early '60's. The first telephone trials were from a doctor's office in Hagerstown, Maryland in 1961 in a situation still similar to that of current community physician needs. The problems discovered laid the foundation for recent commercially available transmission units. ECG's transmitted by Public Health nurses with portable ECG machines taken to the patient's homes have been investigated in feasibility trials in Alexandria, Virginia, and that experience (good and bad) has been helpful in research, development and trials. Other experiences have included telephone transmission over local and long distance via private and public lines from many points in the United States and by various other facilities such as satellite from France, and Tokyo, and by radio link to South America. These transmissions have included long-term, routine, day-to-day operations, emergency room special screening systems, as well as one-time demonstrations.

Processing

The major sections of an ECG processing software package are pattern recognition and interpretation. The pattern recognition portion of the software contains logic for data condensation and data combination. The interpretation software allows for interaction of criteria and measurements.

The program performs a selective "averaging," makes limited rhythm analysis, selects an appropriate complex, locates and measures the wave amplitude and durations, formats and prints these measures, computes the front plane axis, determines the interpretation to be made and also classifies the ECG as normal, borderline, atypical, or abnormal. Provisions are made for bad data and rejection of bad data. Redundancy checks have been added to compensate for rejected bad data.

Display

An acceptable report from an automated system requires time and effort in design and education of the user. If it is not in a format acceptable to the clinician, its use is limited. Much time has been spent in developing report outputs acceptable for routine clinical use.

The display subsystem needs to provide formats suitable for both clinician and institutional use. These include:

- Hard copies of the ECG report for use by the submitting physician, hospital, clinic and staff member (as many copies as needed).
- A reproduction of the tracing for quality control of the processing system and for duplicate and retrieval purposes (possibly computer generated).
- A computer storable form (such as digital tape) for retrieval and comparison purposes.

In addition, there is also the possibility of a computer-generated voice report that might, under appropriate conditions be useful.

Storage and Retrieval

Many systems can exist, ranging from very mundane indexing storage and retrieval systems to large "on-line" sophisticated systems. Economics and statistics are both significant to the overall effort. Both measurements and interpretive codes can be stored on appropriate media within a computer system. Software specifications for cost-effective record retrieval must be developed after full consideration with physician groups of the needs and uses for the data. Physician comparison techniques are currently much improved when he uses computer-generated output as his data base.

The precise biologic and technical variation of the ECG signal over a short term is unknown. Within the last five years these phenomena have been studied for the development of guidelines for the appropriateness of comparison of data to be retrieved in a judicious manner.

The purpose of computer-generated statistical studies must primarily be to describe the natural history of possible disease so that the indicators of each stage in an individual can be predictive. This implies that the simple idea of screening to separate normals from abnormals is crude. We must obtain numerical values for thresholds all along the line of possible disease detection. With every change in subject status we should ask the question of where to set predictive thresholds. The design of a statistical subsystem to allow for the storage and retrieval of ECG information that is useful for clinical service, will be a first step to assist the physician in practice.

Accounting

Billing must be incorporated as a practical subsystem to fit into accepted practices.

Practicality and Economic Considerations

The automated product must be considered superior to manual methods in quality. Additionally, the design of the components of an ECG system must be with full recognition that specially trained electrocardiographic personnel are, and can be expected to remain, in short supply. Maintainability is a prerequisite for any system. From technician through operator to physician, the components of any system must be studied to conserve manpower and diminish facility and other overhead costs.

Physicians require operational costs to be low in order to justify using an automated system. The value of any system to the user must be greater than its cost. In all cases of use of automation, the projected costs must be less than manual methods. Byproduct benefits must be considered in these calculations.

Minimum cost is rarely a suitable factor about which a system should be designed. Some features of a system may result in such operational convenience that they will be considered worth the price. In this regard, we must study real needs. There are many acceptable methods of measuring and estimating costs. Importantly, the selection of method will influence results of the analysis.

ECG processing system costs cannot be based only on computer speed. Labor and overhead reductions are possible and increase as system capacity is reached. Thus, a "slower" computer may fulfill all medical needs for speed and be extremely economical.

Pricing, Costs, and Cost Effectiveness

The utmost economy is achieved when electrocardiograms are taken in one central area on admission. Depending upon the average age of a hospital population and the numbers of patients that go for elective surgery, for example, it might be a reasonable procedure to perform electrocardiography on all patients unless the physician excludes it by written order. This is said in view of the fact that it would be possible to provide the patient in general with better service if volume is obtained at a single site. It often happens that the ECG required is ordered after admission. The difference in hospital operational costs is appreciable. If it is possible to schedule technicians a bit better, they would be used more productively throughout the entire day rather than as usual in many locations only for a portion of a day. Study shows that an ECG on the wards takes fifteen minutes of technician time as opposed to five minutes in a central location.

It has long been considered by some that an ECG should be available in preliminary form for ward use immediately on taking. Since it is not feasible to have twenty-four-hour, seven-day-a-week, cardiologist interpretation, a computer is the next best solution and can be quite suitable. There are, of course, some areas in which the computer is weak as opposed to the cardiologist. However, the areas are primarily in the academic area of arrhythmia sub-classification. The computer does tell whether an arrhythmia is present or not in sufficient detail to allow the intern, resident or practitioner to make a decision.

The central issue is of course how we can provide more expeditious and efficient service. A computer can help us achieve this. Appropriate supervision of the technicians is necessary, of course. It is inherent in any computer operation that those concerned with the computing service guide and supervise the technicians. The fact that they must be under good supervision to give good input to the computer gives a side benefit in better hospital and efficiency. There are some ancillary hospital savings. Billing can be facilitated. Multiple ECG copies are available at insignificant cost. Mounting of tracings can be diminished and improvements made to help the record room. All of this amounts to secretarial time savings.

Availability of ECG Services

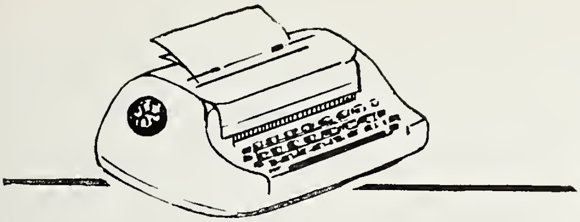
ECG's can be supplied as a twenty-four-hour, seven-day per week, electrocardiographic service. Interpretations of electrocardiograms can be available at the hospital on a preliminary basis within five minutes of the tracing having been taken. Electrocardiographer certification of the preliminary interpretations can then be scheduled at times more convenient to the cardiologist in charge and the hospital.

* * *

ATTENDING, KNOW THY RESIDENT

Maybe patients see us as doctors, but attendings regard us as trainees, the hospital administration considers us employees, and nurses see us as glorified studs. Do we have an identity, or are we just transients in the system? I'd like to know who we really are.

A hospital resident, quoted in *Hospital Physician,* May 1971.



Special Reports

CERTIFICATE OF NEED AND RATE REVIEW LEGISLATION

A Public Hearing by the Joint Committee on Health and Social Services of the State Legislature, Wilmington, Delaware — March 8, 1972.

During the 126th General Assembly of the State of Delaware, two bills were introduced in the House of Representatives (H.B. 104 and H.B. 198) which, if passed, would have profoundly affected the operation and delivery of health care of all hospitals, and many physicians. These bills are popularly known as "Certificate of Need and Rate Review Legislation."

On March 8, 1972, a public hearing was held by the Joint Committee on Health and Social Services of the State Legislature to consider the issues at stake. Evidence presented by the State Medical Society, the Associate of Delaware Hospitals, and the Wilmington Medical Center in opposition to this legislation proved to be effective in delaying the passage of such legislation this year.

However, the problem of "spiralling medical costs" continues to concern many citizens, so there is still a great deal of pressure to "put the lid on the pot," by any means possible. Legislation at the state or national level may yet be the outcome.

Members of the Medical Society must keep informed of these pressures and also know some of the hard facts which have led to the explosive rise in cost of medical care over the past few years. Mr. Rodney Layton, legal counsel for the Wilmington Medical Center, presented some of these hard facts at this hearing, and we feel they should be published for your information. The facts (assembled by Dr. Norman Cannon, Vice-President for Medical Affairs, Wilmington Medical Center, and Mr. James Tyler, Director of Fiscal Affairs, Wilmington Medical Center) clearly indicate that the majority of increased medical costs were unavoidable. The costs that might have been curtailed would have decreased the quality of medical care, had they been prevented by a legislative body.

We urge you to know the facts and be willing to discuss the issues with your Senator and Representative in the Legislature. In this way, we may be able to effect enlightened legislation, which will benefit both the providers and the consumers of medical care in the future. This is by no means a dead issue.

Marjorie J. McKusick, M.D.

TESTIMONY OF RODNEY LAYTON, ESQ.

Senator Conner, Representatives Seibel, Wright and Dillman: My name is Layton and I speak on behalf of the Wilmington Medical Center.

I. I want to say at the outset that Wilmington Medical Center, as a member of the Association of Delaware Hospitals, subscribes fully to the position of the Association expressed to you here, which is in opposition to the legislation which is before the Committee. My comments are intended only to underscore the position of the Association.

II. We are really dealing here with the problem of hospital charges — although there are other elements to the problem. And the legislation which is before you is proposed for the purpose of putting a lid on rising hospital charges.

That legislation would operate by (a) fixing actual charges — and we call that rate control—and (b) by preventing duplication of facilities — and we call that certificate of need.

But whatever we call it, rising charges are the issue. If charges had not increased so dramatically, we would not be here this evening.

III. Let us take a look at some of the increased costs that have caused the problem; and as we look at them, I think you will agree that neither rate control nor certificate of need would have done us one bit of good in controlling those costs. If the legislation which is proposed had been in force beginning in 1965, we would be right where we are today.

A. *Wages* — Once, a career in hospital work or nursing at low pay was acceptable to many people. Now, throughout our society, including the medical service industry, pay commensurate with skills is the order of the day.

(1) *Wages in Wilmington Medical Center*

Minimum Wage Hourly Rate

Oct. 1, 1965	Feb. 1, 1971 and Today	Increase
$ 1.25	$ 2.25	80%
Nurses' Starting Salary		
$4,560.00 ann.	$ 7,414.00 ann.	63%

Other Benefits:

Overtime premiums
Holiday premium
Weekend premium

Even today, 48% of the work force is in grades starting at less than $2.46 per hr.

Bear in mind those wage costs are 60 to 65% of our overall costs. Those increases could not have been prevented by any state legislation, so that at the very beginning, you start out with the major part of our costs not susceptible to rate control limitations.

B. *Insurance costs*

Malpractice, general liability and workmen's compensation:

1966 $ 80,000
1972 $350,000 = 337% increase

C. *Federal Employment Taxes*

Now this is an area where the legislature might wish to do some other things. There is some question in my mind whether the public should be indirectly taxed for these heavy insurance premiums for the principal benefit of a few people and their lawyers, but setting that aside, obviously no rate control commission could have refused to allow the Medical Center to protect itself by adequate insurance against liabilities.

Social Security Tax Increase

In 1965 3.65% on $4,800 or $174.00
1971 5.2 % on $7,800 or $405.60
Increase 133%

Cost to Wilmington Medical Center
1965 $ 309,000
1971 $1,002,000
Increase 224%

Obviously, no state regulatory body could have influenced in any way this major increment of our costs.

D. *Security*

Twelve years ago — no security force. Trouble was handled by calling city police.

Today, security force budget of $425,000. The security force is necessary because of the high percentage of female employees working three shifts per day.

Clearly, if the Medical Center was to continue to operate, this cost was essential and rate control would not have avoided it.

E. *Employee Fringe Benefits*

Pensions, group life insurance, Blue Cross premiums.

In 1965 cost to Wilmington Medical Center

Pensions on a cash basis, limited life insurance, no Blue Cross $ 24,000

In 1971 cost to Wilmington Medical Center

Pensions actuarily calculated, funding of life insurance, and partial contribution to Blue Cross	$1,818,000

It is almost embarrassing to look back at the small amount of fringe benefits which the Medical Center accorded to its employees in 1965, but the point is that the increased costs are ones which are absolutely unavoidable if employees are to be hired and retained in today's world; and the increase in this case, you will note, is over 7,000%.

F. *Medicare/Medicaid*—These programs have been of great benefit to the elderly and the indigent in our communities across the nation, but from the standpoint of the hospitals, it must be recognized that they have caused a tremendous increase in clerical workload. There is a vast volume of forms and accounting required for the presentation, recording, and reimbursement of claims. The unfortunate thing is that these programs reimburse hospital costs only to the extent of approximately 25% — so that if you have to hire ten additional clerks to handle the red-tape workload, you are reimbursed for the cost of only 2½ of those clerks.

G. There are many *other items of increased cost* which are not subject to control. I could go on at great length. Let me mention, however, pollution controls at $85,000 per year—low sulphur fuel; state taxes on utilities —$25,000 per year; and trash removal (the city once did this free)—$32,000 per year. When the state is unable to continue full payments to nursing homes, or to appropriate adequately for state institutions, then we continue to hold the patients without reimbursement.

Now, those are cost increases, some representative ones, which have occurred in recent years, and over which we submit that no effective control could have been exercised.

IV. But, now, let me turn briefly to illustrate some other areas of cost increase — areas in which a rate control commission might possibly have been able to exercise control. I give you these examples:

Six years ago, in each division we had a man who saw to it that oxygen was available to patients if the doctor ordered it. And the nurses usually saw to it that the oxygen tent or catheter in the nose was going right and the tank was replaced when empty. TODAY we have a chief respiratory therapist in each division under whom are a number of technicians skilled in various modes of oxygen and other forms of inhalation therapy and in the use of a number of auxiliary machines to support and modify breathing for the patient in many disease states including emphysema, bronchial asthma, unconscious states, bronchiectasis, and others. They have become skilled hands to amplify the range of care now necessary as part of modern medicine.

Not too long ago, the administration of an intravenous fluid was far from commonplace and, in fact, was something only the physician could administer. TODAY this form of therapy is widely used not only for the fluid itself, but as a vehicle for a host of highly refined and special medications whose precise administration can best be controlled on a continuing basis by the intravenous route. Many of these are prepared in the pharmacy for this very reason, and they run continuously with special catheters in the vein, instead of a simple needle as we used to, in for a few hours today, stick again tomorrow. The actual numbers administered in the Medical Center each day are in the hundreds, and to do this job skillfully and with reliability we have established, as have other hospitals across the nation, what we call "I.V. teams," which are made up of nurses and technicians whose job is, based on physician-supervised training, to start blood transfusions, intravenouses, and other tests and treatment by the intravenous route, day and night. From a "catch as catch can" skill by an intern or whoever was available, we now have some eighteen people covering the Center around the clock seven days a week.

Because of developments in the complexity of surgery and new techniques and knowledge, in some cases some nursing functions have become more technically difficult and specialized, more time consuming, and less routine. Special care units concentrating those special skills became essential. We have had to establish several of these. For example, in each division of the Medical Center, there is an intensive care unit. We also have a special coronary unit at the Delaware Division to take care of people with heart attacks and other coronary problems, and each of the intensive care units can also be adapted at a moment's notice to care for patients with a coronary, both in terms of equipment and in terms of skilled personnel. We now have a special pediatric intensive care unit, and there is a neurosurgical intensive care unit. All of this means that the number of nurses, LPN's, technicians, aides, and physicians concentrated in these areas has increased in order to respond to a shift in technical complexity of care. By such methods, patients recover who, in years past, would have died; but this takes lots more people to take care of a very few very sick people, and this is reflected in the relatively larger number of staff assigned to these units.

Now, in respect to each one of those examples, each one of those developments of improved care, a rate control commission, if it had been in existence, could have told us that we couldn't do it. It could have refused to allow us to collect the charges necessary to operate those special services. But, my point is that you would not have tolerated it, your doctor would not have tolerated it, and your neighbors would not have tolerated it. We don't need to have in Delaware the fanciest medical techniques to be found in the entire nation—we don't need to do what DeBakey does with open heart surgery in Houston, but neither do I think that Delaware is going to permit itself to be deprived of good general medical care including the technological improvements of that care as they develop across the country.

V. Turning back to the proposed legislation — the question here is, *would such legislation be good for Delaware?*

To comment upon this question, let me give you a brief comparison.

Delaware is one of only three states in the union which has no public-supported, short-term general hospital. The public-supported hospitals in other states pick up the cost and function of providing indigent care, care for people who can not pay.

For example, in the city of Philadelphia stands the Philadelphia General Hospital, a publicly-supported hospital with an annual operating budget of $34,600,000 and 1,300 beds. Philadelphia has a 1,900,000 population, about four times that of the state of Delaware. If Delaware operated on the same basis, then there would be an annual appropriation by the state of about $8,600,000 for the support of indigent care. As you know, Delaware's appropriations for this purpose are insignificant.

Since, in Delaware, the non-profit hospitals pick up the cost of indigent care themselves without significant help from the state — and 10% of our costs at Wilmington Medical Center are for indigent care — our charges should be significantly higher than those in the Philadelphia area.

Now, let's make the comparison, and we have benefit of the "Shopper's list" prepared by Insurance Commissioner Denenburg of Pennsylvania in January of 1971. Bear in mind that the Philadelphia hospitals which I will mention have no burden of indigent care except those few cases whom they may select for teaching purposes, and their charges are as follows:

1	University of Pennsylvania	$200.17
3	Thomas Jefferson University	161.18
6	Pennsylvania Hospital	143.67
9	Temple University	132.24
12	Methodist	127.00
15	Magee Memorial	125.73
18	St. Agnes	125.01
21	Medical College of Penna.	119.41
24	Wilmington Medical Center	111.61

Now, you will note that I have listed only every third hospital, so there are a number of others whose rates are comparable.

At the same period of time, the Wilmington Medical Center, carrying a 10% indigent load, had a daily charge of $111.61.

Any business which, after losing 10% of its revenues, can still sell its products of equal quality at a lower price than its full paid competitors, has to be a reasonably well-run business.

It is our strong conviction that rate control is not needed in Delaware.

VI. Let me say just a few words on the cost of operating the rate control and certificate of need commission which is proposed.

We have no definite figures on what it would cost the state, but the budget of the Maryland Health Service Cost Commission last year was $350,000. The budget of the similar commission in Massachusetts was $700,000.

From those figures and considering the much smaller size of the state of Delaware, we guess you would be committing yourselves to spend $200,000 to $250,000 a year to operate the proposed commission.

What we greatly fear, however, is that there will be large hidden costs in operation under this proposed legislation, the amount of which we have no way to estimate. We point out, however, that we would anticipate a substantial increase in the cost of our accounting services required to make the necessary reporting. We see a considerable increase in the amount of clerical work in connection with compliance. Perhaps most importantly, with regard to every one of the thousands of procedures which would come under review by the commission, we would have to present cost justification. This means that, with regard to every blood test, every x-ray, every cardiogram, every urinalysis, and every one of the thousands of other procedures which we perform and for which we charge, we would have to be prepared on the basis of time studies, and other evaluations to justify the exact charge and to restudy and recost as every change in technology develops. We dread the effect of that upon charges to patients.

Finally, I submit to you that, with the voluntary services of the Health Planning Council of Delaware, the non-profit services of Blue Cross, and the voluntary services of Delaware's non-profit hospitals, you have working for you here today a remarkably good system — and you should not change it until you are absolutely sure that you are going to improve it.

* * *

THE 19th CENTURY PHYSICIAN

During a portion of the first half of the present century, and more particularly during the latter part of it, there flourished and practiced in the city of New York a physician who enjoyed perhaps an exceptional share of the consideration which, in the United States, has always been bestowed upon distinguished members of the medical profession. This profession in America has constantly been held in honor, and more successfully than elsewhere has put forward a claim to the epithet of "liberal." In a country in which, to play a social part, you must either earn your income or make believe that you earn it, the healing art has appeared in a high degree to combine two recognized sources of credit. It belongs to the realm of the practical, which in the United States is a great recommendation; and it is touched by the light of science — a merit appreciated in a community in which the love of knowledge has not always been accompanied by leisure and opportunity.

From the first paragraph of *Washington Square, The Europeans* by Henry James.

Editorials

RETROSPECT: DR. JOHN PIERSON

After a half-century of activity as clinician and teacher, Dr. John Pierson has announced his retirement from active practice. It is gratifying that the editors of the *Delaware Medical Journal* have taken the initiative in recognizing his distinguished career.

Exemplary performance in medicine is a family tradition. Those of us who knew the father, Dr. Frank Pierson, recall the acuity he retained in practice when he had passed his 80th birthday. The elder brother, the late Dr. Morris Pierson, was the prime mover in the establishment of the first chest clinic and effective thoracic medical and surgical program in Delaware.

Together with his mentor, Dr. James G. Spackman, Dr. John Pierson established the first approved resident training program, the first blood bank, the first intravenous service, and the first tumor clinic in the state. These landmarks were pre-requisites for the evolution of an aggressive attitude in the surgical treatment of cancer, an attitude in contrast to the pessimistic and fatalistic philosophy prevailing at the time.

Ever the clinician, John Pierson has always adhered to the one-on-one method, individualizing each patient problem with unswerving concentration and seriousness, a sobriety which not rarely weighed heavily on those less than precise in attention to detail but which, simultaneously and paradoxically, added piquancy to a surgical "Golden Bough" of humorous and even hilarious "mythology."

A reflective student and questioner, his judgments in accepting or rejecting new surgical approaches were proven uncannily accurate as time and experience revealed such approaches to be significant contributions or invalid concepts.

Though he spent much of his professional life in an insular and almost ascetic surgical atmosphere, he has been quicker than most of *any* generation to recognize that changing social and economic conditions require adaptation by the medical profession.

Above all, in my mind, the example he has set is one of professionalism, thorough, painstaking and committed. We will do very well if we succeed in perpetuating these standards to the next generation. I am grateful for these gifts he gave to mine.

Harold S. Rafal, M.D.

John C. Pierson, M.D.

AVE ET VALE

Knowing that we planned to honor Dr. Pierson, several of his former residents have sent in their own editorial comments.

The happy as well as beneficial experience of working with and being taught by Dr. John C. Pierson was afforded me during my training days as an intern and surgical resident at the Memorial Hospital.

My respect for Dr. Pierson as a man, surgeon, husband, and father goes on through the years as does my appreciation for his friendship and willingness to share his knowledge during my fledgling years of toil and occasional triumph.

Many will remember, as I do, his meticulous care, no-nonsense approach, exactness of procedure, and demand for respect for the patient, the doctor, and the nurse.

It gives me great pleasure to thank him for his teachings and to wish for him many happy years of living in retirement.

JOHN H. YEAMAN, M.D.
Bridgeton, N. J.

* * *

Through the nostalgic haze of many years, one attribute of Drs. Pierson and Spackman remains fresh and clear to me: a professional approach to the practice of surgery which may perhaps be described as elegant. From the initial examination of the patient to the final inspection of his scar, everything must be done with precision, neatness, and grace. The craft, as well as the art and science, must be worthy of our pride.

The lesson is even more apt now than it was then. In these days of concern about systems for the delivery of health care, we as surgeons must be sure that the quality of our service is not diluted by any administrative consideration.

LESTER J. WALLMAN, M.D.
Burlington, Vermont

* * *

The responsibility to "teach the art to all those who have enrolled themselves and have agreed to the rules of the profession" was one of Dr. John C. Pierson's most serious and persistent professional pursuits. The technique of "imparting the precepts and instruction" was learned from his own teacher (and mine), Dr. James G. Spackman, but significantly refined and elaborated upon by his own unique personality. Essentially the art was transmitted by using a one-to-one encounter with the resident while examining, discussing, and solving clinical problems with depth and precision.

During the twenty years since leaving residency training, I have worked with surgeons, both in army and civilian life, from various parts of this country and many foreign states. The quality of his training has consistently stood the test of effectiveness.

The attributes which I remember most and have striven to emulate were his clinical honesty and personal integrity. Perhaps my greatest compliment to Dr. Pierson is that I have tried over the years to "impart the precepts, instruction, and art" to my own residents with a similar honesty and integrity.

DAVIS A. BALTZ, M.D.
Berkeley, California

* * *

I appreciate this opportunity to acknowledge my personal debt to Dr. John Pierson for the important part he played in my surgical training. I am certain that these sentiments are shared by many others.

It was my good fortune to serve as a surgical resident under Dr. John Pierson during the period 1947-1950. The climate for surgical training at Memorial Hospital was excellent in this post-World War II era. A mixture of recently graduated interns and residents blended well with returnees from the Armed Forces. A channeling into productive channels of this tremendous energy and interest was to a great extent the responsibility of John Pierson. At times he had to make unpopular decisions, which ultimately led to the general benefit and the educational benefit of all. The fine discipline he maintained in the operating room and on surgical rounds coupled with high professional standards, strong emphasis on good patient care, and ethical conduct was a model for all of us. If not appreciated then, these qualities were all valued in our subsequent careers.

The Wilmington area faces a great loss in the retirement of Dr. Pierson. Fortunately this is partially compensated by the presence of so many fine physicians and surgeons in the community he helped to train.

Let me express my best wishes to Dr. Pierson for good health and happiness in the years to come. I know I am joined by his many other friends throughout the country.

Arthur I. Murphy, Jr., M.D.
Pittsburgh, Pa.

* * *

A QUESTION FOR THE DOCTOR

We have all, to some degree, played that game that asks the question, "Where are those people we once knew so well, where are they now?" Representative Daniel Weiss, through his "Legislative Survey of All Licensed Nursing Homes in the State of Delaware," asks that question: "Where are the old folks now?"

We physicians of Delaware need to read this report because it strives to seek answers to the nasty proposition that the weak and the elderly are cast off in environments that may not be healthful, helpful, or in any way constructive. Before any of us can truly say it isn't so, several questions need to be asked. The asking will probably bring out the answers.

Some of us are thirty, some forty, some fifty, some sixty, some sixty-five and some approaching the age or the incapacity that may well place us in a nursing home. Would we willingly submit to being occupants of these homes to which we send our patients, our parents and, in some instances, our wives and other relatives?

You sent a patient to a nursing home last week. Did you inspect, or have you previously inspected, that home to know whether it suits the needs of your patient? Obviously, we cannot all inspect nursing homes, but we can insist that they affiliate with a local hospital utilization committee, or a county peer review committee, for guidelines and approval.

Yesterday, a nursing home nurse called and said, "Doctor, your patient, Mr. J.........., is ill. He appears dehydrated." You know he has had that diuretic for at least ten days on your verbal order and it hasn't been changed, or signed for as yet. Did that happen to you?

Maybe you're a specialist and don't use a nursing home — are you sure you don't use a nursing home? Didn't social service take care of Mrs. S.......... when you said she was ready for discharge? Are you sure social service got a nursing home with physiotherapy capabilities for Mrs. S..........? Did you contact a doctor at that nursing home, not leaving it to social service, and did you send a full summary of what you had done for Mrs. S.........., and what you further expected the nursing home and its physician to do for Mrs. S..........? You are a good specialist and your intentions are above question, but did you do all you could for that older person going to a nursing home?

We physicians didn't ask for nursing homes, but we have them, and should thank Representative Weiss and his committee for bringing to the public's and our attention, this report.

Finally, the report devotes two paragraphs under a separate Section Seven, as follows:

"Physicians are encouraged to consider the particular needs of the institutionalized geriatric patient, initiate rehabilitative programs for their elderly patients, and work toward effective communications between themselves and those nursing home personnel who deliver the prescribed health care.

"In addition, physicians should be cognizant of the criticisms regarding *over-medication of geriatric patients.* Such charges have been leveled consistently by qualified nursing home personnel."

R.J.B.

* * *

ABORTION: WHAT ARE THE PSYCHIATRIC INDICATIONS?

There are definite psychiatric indications for therapeutic abortion. Some of the indications are overt symptomatology such as active psychosis or a history of previous post partum psychosis. Women who have severe personality disorders or who are in states of crisis with serious suicidal indicators are also obvious candidates for abortion.

However, there are other individuals who in their reactions to other people and inner stresses must also be classified as being emotionally ill or neurotic. Characteristically, they are unable to handle the ordinary demands made on them by everyday living. They are unable to renounce certain impulses that occur in all of us. They may have an exaggerated concept of danger (such patients we usually call "over-reactors"). There are also those people who, feeling incapable of changing the outside world, instead try to change themselves through wishful thinking.

Many psychiatrists agree to termination of pregnancy in adolescents. Since this is a most chaotic and stormy emotional period of one's life, one can comprehend what the added burdens and demands of pregnancy could do to someone with an immature, brittle, and fragile ego.

Patients with unwanted pregnancy in their middle years are also frequent candidates for abortion. Two clinical examples of this type of patient may be helpful. About nine years ago, I saw a patient in psychotherapy who was referred to me because of a severe depression. Her despondency lifted, and she was able to emancipate herself from her family and to go on and get married. I received a Christmas card from her every year telling me that all was going well. About six months ago, she called again because she had developed a phobia following the birth of her last child. In the interim since seeing me, she had given birth to two healthy children. More recently, by mistake she became pregnant, and following the birth of this unwanted child, she felt she had to be constantly in his attendance. She would not allow herself a babysitter. With every sniffle from the baby, she felt compelled to call her pediatrician for fear that he would die. In addition, she developed a fear of dying from cancer. Since she did not want to become pregnant again, a rift occurred between her and her husband. She had developed a full-fledged phobia and marital problem that could have been avoided by abortion.

Another patient of mine, an obsessive-compulsive in her early forties, was looking forward to the freedom upcoming when her children were grown and married, and she could be free from the worry and care of their upbringing. With an unwanted child and the subsequent demands made on her, she became angry. With her punitive conscience, my patient was unable to accept these feelings in herself and as a result became guilty and depressed. Being unable to accept or express this hostility toward the child, she turned the anger toward herself and even expressed numerous suicidal ideas. The obsessive-compulsive patient has a very strong tyrannical conscience and sets unrealistic standards for herself. To compound the difficulty of being unable to cope with her own high standards, my patient was constantly fatigued and suffered all kinds of psychosomatic ramifications.

The passage of the new law lending legal and professional authority to termination of pregnancy mitigates the guilt over this procedure in patients with extremely rigid puritanical standards. The indications for termination of pregnancy are very specific, and there are good scientific reasons for recommendations of abortion.

H. George DeCherney, M.D.

* * *

ABORTION: WHO SHOULD CERTIFY THE NEED?

Therapeutic abortion may be legally performed in the state of Delaware if "continuation of the pregnancy would involve substantial risk of permanent injury to the physical or mental health of the mother."

The statute specific that, in the case of a mental or emotional condition, in addition to the personal physician, a psychiatrist shall certify that legal grounds for the abortion exist.

As was predicted by many prior to the enactment of this statute, the "mental health" indication for therapeutic abortion has created a situation where any Delaware resident may obtain a legal abortion up to 20 weeks of pregnancy if she desires it. The reason for this is that many psychiatrists take the perfectly defensible view that any woman with an unwanted pregnancy is running a risk of permanent injury to her mental health if she is forced to continue the pregnancy. Whether this liberal interpretation of the statute goes beyond the original intent of the Legislature is open to some question. However, the fact remains that from a practical standpoint any woman with an unwanted pregnancy may be legally aborted in Delaware, if she is referred to a "liberal" psychiatrist.

With the law being interpreted this liberally it would appear that the family physician or the obstetrician, either of whom is probably better acquainted with the patient than the consulting psychiatrist, is fully qualified to certify that the continuation of the pregnancy would involve substantial risk of permanent injury to the mental health of the mother. For purposes of therapeutic abortion, this judgment is not being made currently on complicated psychiatric grounds, but rather on the word of the patient that she is upset by being pregnant. The vast majority of therapeutic abortions are being performed on unmarried teenagers and on married women who simply do not want another child at a given time. Most of these patients have no underlying psychiatric illness, and termination of the pregnancy is the only therapy necessary.

What about the occasional patient who is either severely disturbed to start with, or becomes so as a result of having an abortion performed? Does the compulsory psychiatric consultation prior to abortion identify this patient or at least open channels of communication to the psychiatrist so that future problems can be dealt with? Although these questions are certainly valid, one has to think that few psychiatrists are capable of discovering in a fifteen-minute interview any serious emotional problems which are not already apparent to a physician who has known the patient for some time, and that the patient's interest can be equally well served by psychiatric referral either before or after the abortion, according to the judgment of the primary physician.

The current practice of requiring psychiatric consultation prior to abortion for mental health indication should be changed. If the patient's family physician or obstetrician is permitted to certify as to the status of her emotional health, she will be spared the expense and inconvenience of what is in most cases an unnecessary psychiatric consultation, and the overburdened practicing psychiatrists can again devote full time to those patients truly in need of their skills.

James B. McClements, M.D.

Editor's note: The American College of Obstetricians and Gynecologists announced a policy in 1970 which recommended abolition of the requirement for consultation prior to abortion. The Committee on Psychiatry and Law of the Group for the Advancement of Psychiatry recommended in 1969 that, a) "abortion, when performed by a licensed physician, should be removed from the domain of criminal law" and b) "that a woman should have the right to abort or not, just as she has the right to marry or not."

In Delaware, the present statute was adopted in 1969. You may obtain a copy of the abortion law from the Medical Society of Delaware office, 658-7596.

* * *

CIRCULATORY HERESY

In a recent issue of the *Journal* several editorialists reviewed the current controversies regarding the proper diet for the prevention of heart disease, for the protection of blood vessels.[1,2] Although there are still numerous controversies within medicine (the ethics of psycho-social neurosurgery, the efficacy of internal mammary transplants, radical versus simple mastectomy, etc., etc.), death to the loser of the argument has, fortunately, gone out of style. To those who sometimes look past their office windows to the world outside and feel that mankind has not progressed much in his personal aggressiveness towards his fellows, let us remember that a mere 300 or so years ago dissenters from accepted theories were not treated merely by disparaging or skeptical editorials.

During the 16th century science and religion were thoroughly intertwined to the great personal misery of scientists challenging existing theories. They then became not merely advancers of new knowledge, but defiers of dogma, heretics, who often paid for these with their lives.

A few, such as Galileo, recanted, muffled their voices, and lived. Michael Servetus' blasphemies included a denial of the thereto accepted Galenic theory of circulation which held that blood passed from one ventricle to the other through septal pores. Antedating Harvey, he said so in his book, *Christianismi Restitutio* published in 1553.

" . . . this communication [of the blood] is made not through the middle wall of the heart, as is commonly believed, but by a very ingenious arrangement the subtle blood is urged forward by a long course through the lungs, it is elaborated by the lungs, becomes reddish-yellow and is poured from the pulmonary artery into the pulmonary vein. Then in the pulmonary vein it is mixed with inspired air and through expiration it is cleansed of its sooty vapors. Thus finally the whole mixture, suitably prepared for the production of the vital spirit, is drawn onward from the left ventricle of the heart by diastole."

Servetus burned at the stake the same year. In his heretical book he wrote: "He who really understands what is involved in the breathing of man has already sensed the breath of God and thereby saved his soul." The man was burned, but his theses did not die with him. And at least one copy of his text remains, nearly intact, as one of the treasures of the University of Edinburgh library.

B.Z.P.

REFERENCES

1. Flinn LB: What should a man eat, 1972? Del Med Journ 44:111, 1972.
2. Cohen M: The dirty word is still cholesterol. Del Med Journ 44:111, 1972.

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SCIENCE AND SUFFERING

Between birth and death there is suffering. . . . . We do not cure. No disease is really ever cured. It may be recovered from, or improved, or relieved, but effects remain; our duty is to relieve the sufferings inherent in them, or resultant from them. Our "scientific" emphasis seems to have confused us about suffering. We tend to confuse a result with its cause, or to call improvement cure, and have come to accept the substitution of one suffering for another as improvement, so that pride of achievement often becomes more important than the suffering.

We know much of kidney transplantation and the tremendously specialized knowledge developed in immunity, tissue repair, operative technique, and control of infection to accomplish this. To give 40 or 50 per cent of the sufferers a temporary respite from death, requiring varying degrees of suffering, such as repeat transplants of cadaver kidneys yearly, or an average life expectancy of three years after homotransplantation, is not relief of suffering. It is the substitution of one suffering for another.

It is a strange conception in our modern scientific casuistry that death and life are opposites. Much has been said of the role of medicine as an ally in the opposition of life against death. This is a mistake. Death is not opposed to life. It is the natural conclusion of life and living. Our ethos should concern itself more with the relief of suffering in the transition. As one wag put it: "Life is a chronic disease, curable only by death." No amount of research will enable us to eliminate death, and to prolong life is not necessarily the relief of suffering.

I quote from Harry E. Bacon in his paper, *Science Is Not Enough.* "With the advancement of scientific medicine the physician is allowing a dispassionate impartiality, in some instances indifference, to vitiate his traditional, humanitarian, physician-patient relationship."

T. F. Hahn, M.D.*

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*Dr. Hahn is Health Director, Rutherford-Polk District Health Department, Rutherfordton, North Carolina.

This is an excerpt from a paper presented at the University of Florida School of Medicine and later published in *Medical Counterpoint, July/August, 1969.*

Book Reviews

Aspirin, Platelets and Stroke — Background for a Clinical Trial, W. S. Fields and W. K. Hass, Editors, Warren H. Green, Inc., St. Louis, Mo., 1971, pp. 163. $10.50.

As is the case with New Year's resolutions, each time we face a new avenue of clinical research we firmly promise ourselves not ever to incur again our past errors and improvidences. We decide not to look ahead with an oversimplified view of the problem and not to proceed with too rigid a method of investigation which would soon prove itself unsuited to the wide scope and the complexities of the clinical reality. These are the main reasons, only partially fulfilled, for this little book: an attempt to correct and expand some of our narrow views of occlusive cerebrovascular disease, to open anew the field of thrombosis dynamics in cerebral arterial disease, and to try to start the research of this new territory with the proper scientific, clinical, and methodological background. Not having done so in the past today still blurs our view of the therapeutic use of anticoagulants.

In this sense, the book is far from being a comprehensive review of occlusive cerebrovascular disorders. It is a series of papers and research studies dealing with quite specific points in relation to the pathogenesis of cerebral ischemic attacks, the inhibition of platelet aggregation, and the pharmacology of salicylates. The book ends with some comments on methodology of clinical research in these areas.

With regard to the first problem, the pathogenesis of transient ischemic attacks (T.I.A.'s) our views are once more reshaped to evaluate properly the importance of ulcerated atheromatous plaques as the site of origin of emboli and as the starting loci for platelet aggregates, fibrin deposits, and thrombosis. The importance of ulcerated atheromas, not necessarily causing a significant degree of lumen stenosis, is commented on in general by W. Hass and W. Moore. It is further illustrated with arteriographic material by P. Kishore, N. Chase, and I. Kricheff and discussed from the pathological, surgical, and radiological standpoints by W. Ehrenfeld.

The paper by P. Kishore et al is particularly interesting. The incidence of ulcerated plaques was studied angiographically in 71 random-selected patients with cerebrovascular insufficiency. There was only a 7% incidence of ulcerated lesions in the vertebrobasilar system, while the carotids showed an incidence of 16% in addition to 22 other cases of irregular stenosis. Most significant is the fact that of the 61 instances of ulcerated or irregular carotid plaques there were 20 associated instances of middle cerebral artery branch occlusion (33%). By contrast, only 16% of similar middle cerebral branch occlusions were coexistent with normal or smoothly stenosed extracranial arteries. Hence, the importance of ulcerated lesions seems to be beyond any doubt in the pathogenesis of distal arterial occlusions and T.I.A.

The second and third parts of the book are more specialized and deal with the role of platelets in thrombosis, the biochemical properties, and the effects and pharmocology of that "old-new" panacea — aspirin. The authoritative works of H. Weiss, G. Evans, J. Mustard, M. Packham, M. Zucker, A. Marcus, S. Riegelman, and E. Truitt review most of our present knowledge of the subject, in general in no greater detail than has been available in recent review articles elsewhere. The positive advantage of this book is the concentration in the same place of the various aspects of the problem, rather than the greater depth of the expositions. The final panel discussion, "The Experimental Design," does not add better clues as to how to protect future research from the traditional methodological, practical, and even clinical difficulties of works of this kind.

In short, this is a worthwhile little book for those specifically interested in these topics of clinical research and a starting point for further specialized studies of the literature, but too narrow a book for the physician who is trying to understand in breadth the varieties and complexities, the changing therapeutic fashion, and the ups and downs of the theories of pathogenesis of cerebrovascular diseases.

Oscar S. M. Marin, M.D.

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Marijuana Reconsidered by Lester Grinspoon, M.D., 443 pp., Harvard University Press, Cambridge, Massachusetts, 1971. Price $9.95.

Dr. Grinspoon, who is Associate Clinical Professor of Psychiatry at Harvard, has written a book which might have been subtitled, "Everything there is to know about marijuana including an analysis of the half truths and utter lies which have been fed to you in the past."

In the United States, cultivation of *Cannabis sativa* (as Linnaeus named it in 1753 but which is better known by its older name of Indian hemp) began at Jamestown in 1611. Its agriculture was ordered by King James I over the protests of Sir Walter Raleigh, who preferred tobacco as a good cash crop. Not only was Virginia hemp used for bagging, twine and marine rope, but nearly all of the winter clothing and most of the colonists' summer clothing in 1630 were made of hemp fiber.

"The resin of the hemp plant has been used as an intoxicant for milennia," states Grinspoon, and the documentation is fascinating. *Charras* or *charas*, the pure resin, was gardened in India in an intriguing way in the 19th century. The workers ran through the fields naked or dressed in leather garments. The sticky canabis resin was then scraped off their clothes or their bodies with a special knife.

Grinspoon suggests that in the USA the legal fury against the use of marijuana may have been given impetus by the liquor manufacturers who feared competition when prohibition was removed. Lack of good scientific data about its properties allowed the Federal Bureau of Narcotics to propagandize against it without objective data. The debate, of course, still rages; hard data on this soft drug are still lamentably scarce. But in this enormously well documented book (nine pages of Selected Bibliography and more than forty pages of reference notes), Grinspoon lucidly separates fact from fiction.

Summarized very simply this book says that marijuana is neither poisonous nor addicting, it is not very dangerous, and its use seems here to stay. Attempts to deny its use are therefore shortsighted and self-defeating, problem-creating instead of problem-solving.

The last two sentences nicely summarize Grinspoon's conclusions:

"Indeed, the greatest potential for social harm lies in the scarring of so many young people and the reactive, institutional damages that are direct products of present marijuana laws. If we are to avoid having this harm reach the proportions of a real national disaster within the next decade, we must move to make the social use of marijuana legal."

His more detailed comments on the report of the National Commission on Marijuana and Drug Abuse have been recently presented in an editorial in the *Saturday Review*.[1]

As physicians we are well acquainted with the doctrine that much of what we learn in short time becomes obsolete, and we need to relearn and unlearn to avoid mental ossification. This seems to be true of our party line with respect to marijuana. Will we have the courage to admit we were wrong?

Bernadine Z. Paulshock, M.D.

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[1] Lester Grinspoon, M.D. "Half a Loaf: A Reaction to the Marijuana Report," *Saturday Review*, April 15, 1972, pp. 21-22.

PERSONAL CREED

"Act only on that maxim whereby thou canst at the same time will that it should become the universal law." Immanuel Kant

Delaware Academy of Family Physicians

1972 FALL COURSE

The Fall Course for 1972 is entitled Endocrinology for the Practicing Physician. It will be held in the Conference Room of the Nurses' Residence at the Wilmington General Division each Wednesday from September 13 through November 15 from 1 to 4 p.m. Approved for 30 hours' AAFP credit.

Sept. 13 Parathyroid Gland, Disturbances of Calcium Balance — *Rachmel Cherner, M.D.*, Clinical Assistant Professor of Medicine, Jefferson Medical College

Sept. 20 Hypothalamus and Adenohypophysis — *Francis H. Sterling, M.D.*, Assistant Professor of Medicine, University of Pennsylvania

Sept. 27 Use and Misuse of Adrenal Steroids — *John H. Killough, Ph.D., M.D.*, Associate Professor of Medicine, Jefferson Medical College

Oct. 4 Endocrine Factors in Hypertension: Pheochromocytoma, Aldosteronism — *Albert N. Brest, M.D.*, Professor of Medicine, Jefferson Medical College

Oct. 11 Current Concepts of Etiology and Treatment of Diabetes Mellitus — *Sheldon R. Schlaff, M.D.*, Assistant Professor of Medicine, Assistant Professor of Obstetrics and Gynecology, Jefferson Medical College

Oct. 18 Thyroid Gland — *Ruth Ann Fitzpatrick, M.D.*, Senior Instructor, Hahnemann Medical College

Oct. 25 Ovary — *Edward A. Slotnick, D.O.*, Instructor in Obstetrics and Gynecology, Jefferson Medical College

Nov. 1 Diabetic Complications including Ketoacidosis, Hyperosmolar Non-ketotic Coma and Lactic Acid Acidosis — *Stanley N. Cohen, M.D.*, Clinical Assistant Professor of Medicine, Jefferson Medical College

Nov. 8 Adrenal Cortex — *Abraham Rakoff, M.D.*, Professor of Obstetrics and Gynecology (Endocrinology), Professor of Medicine (Endocrinology), Jefferson Medical College

Nov. 15 Tests — *Paul D. Zimskind, M.D.., Ph.D.*, Hatfield Professor of Urology, Chairman of the Department, Jefferson Medical College

President's Page

A ONE-HUNDRED PERCENT GOAL

Participation and support by *100%* of the members of the Medical Society of Delaware are goals to be achieved for the 1972 *United Fund* campaign. Physicians as a group do have more awareness than almost any other group of the needs and the services rendered by the United Fund affiliated agencies. Our dollars are needed in addition to the continued contribution of large amounts of our time and talents to volunteer efforts and charity. Although more health care is being funded, costs continue to escalate, demands for services are increasing, and expanded needs are being identified. Personal commitment and involvement have been an underlying message of my prior President's Pages, and I again encourage your action.

The United Fund and Council of Delaware has developed a system for human services for those citizens in need. The Fund is effective and efficient in channeling voluntarily contributed funds to accredited voluntary social service agencies. In addition to budget funding, there are priority establishment, problem solving, and community planning functions followed by evaluation of efforts.

Effective management exists with an eighty-five member Board of Directors and a fifty-three member Budget Committee. These community representatives make prudent judgments of expenditures and allocations to the member agencies after determination and review of service programs and management capabilities. Almost 91% of the funds received are returned to the community in terms of agency services. Physicians are members of the Boards of many of these agencies, and services are used and depended upon widely by practicing physicians for referral of patients. The total number served by these agencies in 1971 was 166,451 persons.

Participate and give to achieve 100%. Be a part of the theme of the 1972 United Fund campaign: "Thanks to you, it's working."

H. M. Baganz

In Brief

2nd Annual Conference on "Death and Dying"

The Department of Pastoral Care of the Wilmington Medical Center will sponsor a conference on "Death, Dying and Grief." The dates for the conference are October 10th and 11th. It will be held at the Delaware Academy of Medicine, Inc., Lovering Avenue and Union Street, Wilmington, Delaware.

Guest speakers for October 10th will be Dr. Joseph Fletcher, Professor of Medical Ethics at the University of Virginia School of Medicine, Charlottesville, Va., and Dr. Melvin J. Krant, Director, Tufts University Medical Cancer Unit, Lemuel Shattuck Hospital, Boston, Mass. They will be speaking on matters concerning the "Ethics of Elective Death" and "Problems in Terminal Illness."

On the following day, October 11th, the speakers will be Ward W. Briggs, M.D., Director of Personnel Health, Wilmington Medical Center; Leslie Whitney, M.D., Director of Department of Surgery, Wilmington Medical Center; Ruben A. Teixido, M.D., Associate in Department of Surgery, Wilmington Medical Center; Chaplain Lynwood Swanson, Department of Pastoral Care of the Wilmington Medical Center. Two questions will be under discussion: first, "What should the *physician* tell the patient and his family about Death, Dying and Grief?" and second, "What should the *pastor* and *health care professional* tell the patient and his family about Death, Dying and Grief?" On October 11th, at 7:30 p.m., in the Hotel duPont, Charles M. Bancroft, M.D. will be the banquet speaker.

Speakers on "Ask the Doctor"

Speakers for September 1972 on the Tuesday radio program (11:05 a.m., WDEL) produced by the Medical Society of Delaware are: September 5, William J. Holloway, M.D., *Gonorrhea;* September 12, Stephen H. Franklin, M.D., *Cross-Eyed Children;* September 19, Sanford G. Rogg, M.D., *Alcoholism;* September 26, Gordon Keppel, M.D., *The Family Physician and the College Physician.*

Delaware Children's Health Clinics

Under the terms of the Social Security Act amendments of 1967, all states are required to provide health screening and diagnostic services to the age group of birth to six years of age who are eligible for medical assistance under Title XIX (Medicaid), effective July 1, 1972. An expansion of services to include all eligibles up to age 21 years is required effective July 1, 1973.

The Delaware Title XIX health screening program (Medichek) is administered by the Division of Public Health through its Children's Health Clinics at the following locations:

Model Cities State Service Center, 10th and Monroe Streets, Wilmington; Belvedere State Service Center, Newport; Northeast State Service Center, Governor Printz Boulevard, Wilmington; Kent County Health Unit, Dover; and Sussex County Health Unit, Georgetown.

Other Children's Health Clinic locations will be added as needed. Children's Health Clinics include services for both Medichek and well child care.

Medichek screening procedures include: 1. history and physical examination; 2. general health appraisal; 3. general developmental appraisal; 4. vision screening; 5. hearing screening; 6. dental screening; 7. immunizations; 8. Diagnostic tests: tuberculin, hematocrit, sickel cell and urinalysis; and 9. counseling and referral.

Services rendered will be reimbursed on a cost only basis from Title XIX funds. These patients shall continue to have freedom of choice and may choose to return to their private physicians for follow-up and treatment. Those patients needing follow-up medical and dental services who indicate no private physician and dentist contact will be referred to appropriate resources, both public and private.

CLINICAL NOTICES AND MEETINGS

Occupational Health Congress

Th 32nd Annual AMA Congress on Occupational Health will be held at The Drake Hotel in Chicago, September 11-12, 1972. For information write Henry F. Howe, M.D., Secretary, AMA Council on Occupational Health, 535 N. Dearborn St., Chicago, Ill., 60610 or phone (312) 527-1500.

National Cancer Conference

The Seventh National Cancer Conference, cosponsored by the American Cancer Society and the National Cancer Institute, will be held at the Biltmore Hotel, Los Angeles, September 27-29, 1972. For further information write: Sidney L. Arje, M.D., Coordinator, Seventh National Cancer Conference, c/o American Cancer Society, 219 East 42nd Street, New York, N.Y., 10017.

ASA Lectures

The American Society of Anesthesiologists will present its 23rd Annual Refresher Course Lectures at the Sheraton-Boston Hotel and John B. Hynes Civic Auditorium, Boston, Mass., September 30 and October 1, 1972. For additional information contact: American Society of Anesthesiologists, Inc., 515 Busse Highway, Park Ridge, Ill., 60068.

ACS Clinical Congress

The world's largest meeting of surgeons, the 58th Annual Clinical Congress of the American College of Surgeons, will be held at the Fairmont Hotel, San Francisco, October 2-6, 1972. For further information contact S. Frank Arado, American College of Surgeons, 55 East Erie St., Chicago, Ill., 60611.

AAP Annual Meeting

The American Academy of Pediatrics will hold its 41st annual meeting at the New York Hilton Hotel in New York City, October 14-19. For additional information contact: American Academy of Pediatrics, Department of Public Information, 1801 Hinman Avenue, Evanston, Ill., 60204. (869-4255)

ACP Postgraduate Courses Fall '72

All registration information for the following courses should be referred to: Registrar, Postgraduate Courses, American College of Physicians, 4200 Pine Street, Philadelphia, Pa., 19104.

Course No. 1: *Basic Mechanisms in Internal Medicine,* September 25-29, Richmond, Va; Course No. 2: *Current Concepts in Hematology,* October 2-4, Pittsburgh, Pa.; Course No. 3: *Developmental Biology and Perinatal Medicine,* October 2-4, Montreal, Quebec, Canada; Course No. 4: *The Non-Medical Use of Drugs,* October 2-6, Newark, N.J.; Course No. 5: *Advances in Therapeutics and Clinical Pharmacology,* October 9-11, Gainesville, Fla.; Course No. 6: *Human Reproduction, Population Problems and Fertility Control,* October 9-12, Boston, Mass.; Course No. 7: *Recent Advances in Infectious Diseases,* October 12-14, Minneapolis, Minn.; Course No. 8: *Current and Future Concepts in Gastroenterology,* November 6-8, Tucson, Ariz.; Course No. 9: *Internal Medicine Grand Rounds,* November 8-10, Rochester, Minn.; Course No. 10: *In Vitro Procedures in Nuclear Medicine,* November 15-17, Baltimore, Md.

University of Miami Course Schedule

For additional information concerning the following courses, write to Continuing Education, University of Miami School of Medicine, P. O. Box 875, Biscayne Annex, Miami, Fla., 33152. *Gastroenterology Updated,* September 22-24; *Orthopaedics & Rehabilitation,* October 14-15; *Cardiology,* October 16-20; *Otolaryngology for the Family Physician,* October 20-21; *Neurology,* November 8-11; *Obstetrics & Gynecology,* December 8-9; *Nurse Anesthetists,* December 8-10; *Myocardial Infarction,* December 13-15.

9th Annual Noyes Conference

The Ninth Annual Arthur P. Noyes Memorial Conference will present *Death: a dialogue with the living.* The Noyes Conference will be held at Norristown State Hospital, Norristown, Pa. on October 14. For additional information contact: Arthur P. Noyes Research Foundation, Inc., Stanbridge and Sterigere Streets, Norristown, Pa., 19401.

CLASSIFIED AD SECTION

Advertisements under the Classified Ad Section are charged at the rate of 30 words or less, set solid. One insertion $4.00. Call the Journal office. 658-7596 for further information or placement. All advertisements are payable in advance. The Editorial Board reserves the right to edit copy. Closing date for new copy is the first of the month for inclusion in the current issue.

Classified advertisements of a professional nature are free to members.

HEMATOLOGIST: Graduate New Jersey College of Medicine & Dentistry, '65. Internship at Albany Medical Center Hospital, Albany Medical College. Residency Albany Medical and Cleveland Clinic Hospital. Passed National Boards '66. Will be Board Eligible in Internal Medicine and Hematology July '73. Prefers hospital-based or group-oriented practice.

PATHOLOGIST: Graduate of the Medical University of Budapest, Hungary, '52. Licensed in Maine. Board Certified in Anatomical Pathology and Board Eligible in Clinical Pathology. Also interested in forensic practice.

RADIOLOGIST: Graduate Harvard Medical School, '67. Board Eligible. Interested in group practice. Currently on active duty with USAF. Available July '73.

INTERNIST: Graduate University of Pennsylvania School of Medicine, '67. Board Eligible. Interested in group or associate practice. Licensed in Pennsylvania. Available July '73.

WANTED: Obstetrician-Gynecologist. Board Certified or Eligible, to do minor surgical procedures one day a week. Pennsylvania license required. Reply to Box E, Medical Society of Delaware, 1925 Lovering Ave., Wilmington, 19806.

OPHTHALMOLOGIST: Graduated from New York Medical College '67. Passed National Boards '68. Experience includes general practice. Will complete ophthalmology residency June '73.

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MEDICAL SOCIETY OF DELAWARE

1776-1789-1972

October 20 and 21, 1972

183rd ANNUAL MEETING

PROGRAM

House of Delegates

OCTOBER 20

Schrafft's Motor Inn
Newark, Delaware

2:00 P.M. House of Delegates
6:30 P.M. Cocktails and Dinner

Prayer Breakfast

OCTOBER 21

7:45 A.M. Home of Merciful Rest, Wilmington

Socio-Scientific Session

OCTOBER 21

Delaware Academy of Medicine
1925 Lovering Avenue, Wilmington

8:30 A.M. REGISTRATION — EXHIBITS

9:15 A.M. CALL TO ORDER — Herbert M. Baganz, M.D., President, Medical Society of Delaware
Welcoming Remarks — John J. Egan, M.D., President, New Castle County Medical Society
Report of the House of Delegates — Joseph W. Abbiss, M.D., Secretary, Medical Society of Delaware

9:30 A.M. MEDICAL ASPECTS OF STATE INSURANCE PLANS AND LEGISLATION — The Honorable Robert A. Short, Insurance Commissioner of the State of Delaware

10:00 A.M. INTERMISSION — EXHIBITS

10:30 A.M. IMMUNIZATION — CURRENT CONCEPTS — Philip A. Brunell, M.O., Associate Professor, Department of Pediatrics, New York University School of Medicine

11:30 A.M. ANECDOTAL HISTORY OF DELAWARE MEDICINE — Mr. William P. Frank, Staff Writer, News-Journal Papers

12:00 BUSINESS MEETING
Election of President-Elect

12:30 P.M. LUNCH — Host, New Castle County Medical Society
VISIT EXHIBITS

2:00 P.M. CORONARY ARTERY CINERADIOGRAPHY — F. Mason Sones, Jr., M.D., Head of the Department of Cardiovascular Surgery and the Cardiac Laboratory, Cleveland Clinic

2:55 P.M. MYOCARDIAL REVASCULARIZATION SURGERY — THE CLEVELAND CLINIC EXPERIENCE — Donald B. Effler, M.D., Chief of the Department of Thoracic and Cardiovascular Surgery, Cleveland Clinic

3:50 P.M. INTERMISSION — EXHIBITS

4:05 P.M. CURRENT TRENDS IN ANTIMICROBIAL THERAPY — Monroe J. Romansky, M.D., Professor of Medicine, The George Washington University Medical Center

5:00 P.M. ADJOURNMENT

Annual Banquet

Wilmington Country Club
Kennett Pike, Wilmington

6:30 P.M. Cocktails

7:30 P.M. Annual Banquet
Invocation — Chaplain Lynwood Swanson, Wilmington Medical Center
Dancing 'til Midnight — Music by Ivan Tash

5 Hours AAFP Credit Applied For

PROGRAM

THE WOMAN'S AUXILIARY TO THE MEDICAL SOCIETY OF DELAWARE

Saturday, October 21, 1972

12:30 P.M. LUNCH — Host, Medical Society of Delaware

Following the luncheon members of the Woman's Auxiliary are presenting a Fashion Show and Fondue Party from 1:00 to 4:00 P.M. in the Academy of Medicine Library. Fashions by Jo Robinson, Inc. Wives and guests of physicians are welcome.

EXHIBITORS

No. 1—Aetna Life and Casualty

The Aetna Life and Casualty Booth will demonstrate Aetna's firm commitment. in cooperation with the Medical Society of Delaware, to the protection of physicians by helping them control their professional liability losses through education. The booth demonstrates dramatically the many causes of malpractice claims and how to avoid them. In attendance will be David C. Kellsey, M.D. and K. C. Pierce, Coordinator.

No. 2—Eckerd's Prescription Drug Stores

No. 3—Division of Public Health, Department of Health and Social Services, State of Delaware

The exhibit will feature the recommended techniques for obtaining and handling culture specimens for the diagnosis of gonorrhea. It will also provide the current schedules for the treatment of gonorrhea patients.

No. 4—Professional Clinical Laboratories, Inc.

No. 5—INTRAV

The 1973 Intrav Adventure, sponsored by the Medical Society of Delaware, will feature two fun-filled weeks in Sweden, Finland, and Denmark. Plan now to have a Scandinavian Adventure in May-June, 1973.

No. 6—Farmer in the Dell Enterprises of Delaware, Inc.

You are invited to investigate the potential of this new and exciting investment opportunity.

No. 7—J. A. Montgomery, Inc.

Members of the Medical Society of Delaware are cordially invited to seek the latest information on any type of insurance, estate planning, or tax savings. J. A. Montgomery professional specialists will be on hand.

No. 8—Stuart Pharmaceuticals, Division of ICI America Inc.

A cordial invitation is extended to all members and guests attending this meeting to visit the Stuart Pharmaceuticals booth. Trained representatives will be in attendance to answer your questions on our products: MYLANTA®, CHEWABLE SORBITRATE®, SORBITRATE® Sublingual and Oral, KINESED®, STUARTNATAL™ 1+1, and others.

No. 9—Cooper Laboratories, Inc.

Cooper Laboratories, Inc. cordially invites members of the Society to visit our booth where technical representatives will discuss Elixophyllin (theophylline elixir), Quinaglute (quinidine gluconate), and Kay Ciel (potassium chloride elixir).

No. 10—Encyclopaedia Britannica

Encyclopaedia Britannica welcomes delegates to the Annual Meeting of the Medical Society of Delaware. As part of our exhibit, we will have on display the great new edition of Britannica, the Britannica Junior, and other related products. Stop and inspect these products in Booth #10. They are available to the members at our convention offer.

No. 11—Airsignal International, Inc.

Our representative will be happy to introduce you to the most modern radio paging equipment — the "People Beeper."

No. 12—Bristol Laboratories

You are cordially invited to visit our exhibit reflecting Bristol's leadership and enduring commitment to the manufacture of life-saving antibiotics. For your consideration, the following Bristol antibiotics are featured: Versapen® (hetacillin); Tetrex® (tetracycline phosphate complex); Kantrex® (kanamycin sulfate); Prostaphlin® (sodium oxacillin); Bristamycin® (erythromycin stearate); Salutensin® (hydroflumethiazide, reserpine and protoveratrine A); and Naldecon® (antihistamine decongestant). Our representatives welcome the opportunity to answer your inquiries.

No. 13—Mutual Benefit Life Insurance Company

Walter B. Suskind, C.L.U., Agency of Mutual Benefit Life Insurance Company, presents "Financial Planning for the Physician." There will be special emphasis this year on "Financial Profiles," objective computer analysis of the physician's financial goals and the characteristics of various investment media best suited for accomplishing these goals.

No. 14—William P. Poythress & Company, Inc.

Wm. P. Poythress & Company is pleased to be a part of your annual meeting, and we invite you to visit with our representative, Mr. William J. Magna, in Booth #14. Your comments, questions, and requests for any of our pharmaceutical specialties will be welcomed.

No. 15—Merck Sharp & Dohme

The Merck Sharp & Dohme exhibit has been designed to offer a contribution to your therapeutic armamentarium. Technically trained personnel are available to discuss the scope and variety of services offered to physicians.

No. 16—John G. Merkel & Sons, Inc.

See the latest and finest in medical and laboratory equipment for hospital or office and the lastest equipment for the home care of your patient. This equipment available upon request.

No. 17—Wyeth Laboratories

The Wyeth exhibit will feature our oral contraceptive, Ovral®, as well as our antianxiety agent, Serax®. The Tubex line of injectable products will be available for demonstration. Representatives Dave Cooper, Bob Dulick and Jerry Guerin will be in attendance.

No. 18—Organon, Inc.

No. 19—Johnson & Higgins

Insurance Brokers and Benefit Plan Consultants.

No. 20—HOMEMAKERS-Upjohn

Homemakers is a national organization, with offices across the country, that provides temporary part-time (or full-time) help to people who need visiting home managers, homemakers, and live-in aides. Homemakers also employs registered licensed practical nurses and nurses' aides for hospital staff relief and private-duty care.

No. 21—Cedar Tree Press

Mr. N. L. Cerchio III will be available to assist you in planning for your printing needs. Samples of professional stationery and administrative aids will be displayed.

No. 22—G. D. Searle & Co.

You are cordially invited to visit the Searle booth where our representatives will be happy to answer any questions regarding Searle Products of Research. Featured will be information on OVULEN®, DEMULEN®, ENOVID®, ALDACTAZIDE®, FLAGYL®, LOMOTIL®, PRO-BANTHINE®, and other drugs of interest.

No. 23—Fountains of Palm Beach

Robino-Ladd Company is a Delaware-based, publicly held corporation. One of its many projects is the Fountains of Palm Beach Golf and Racquet Club in Lake Worth, Florida. This is a project of 450 acres with 1600 projected condominiums, townhouses, and garden apartments. 540 are under construction and of these, 180 are now delivered. There are 27 holes of the finest golf in Florida, supported with a $1,000,000 club house, pools, tennis courts, and Craft Hall. All amenities exist now. Golf, swimming and tennis offer immediate pleasure the day you move in.

No. 24—Hoescht Pharmaceuticals, Inc.

Your Hoescht representative will be pleased to discuss products of interest to you.

No. 25—Smith Kline Systems Company

'ESKADATA' is a new and uniquely comprehensive and flexible service for private practitioners from Smith Kline & French Laboratories. Computerized patient and third party billing, accounts receivable and practice management analysis and reporting services are available to help make your practice more efficient. Data is sent by 'Touch-Tone' telephone.

No. 26—Roche Laboratories

You are cordially invited to visit the Roche display. The Roche representative will gladly answer any questions you may have on any products in the Roche line. Featured will be Librium® and Valium®.

No. 27—PRO Services Inc.—Rockwell Associates

No. 28—Blue Cross and Blue Shield of Delaware, Inc.

No. 29—Truitt Printing Company

We are pleased to print the *Delaware Medical Journal* each month.

No. 30—Roerig Division of Pfizer

Roerig welcomes you to the 183rd Annual Meeting of the Medical Society of Delaware. Please stop by the Roerig booth at your convenience. Our representatives are eager to meet and help you.

No. 31—Libby Surgical Supply Company

Instruments, diagnostic and treatment supplies. We wish the members of the Medical Society of Delaware a most successful meeting.

No. 32—Pitney-Bowes, Inc.

No. 33—Bertholon-Rowland Agencies

The sponsored Disability Income Plan of the Medical Society of Delaware has been available to members for 19 years. Representatives of Bertholon-Rowland Agencies welcome this opportunity to review the important features of the group program and its value to you — as an individual or a professional association.

No. 34—Scientific Publications

Our close contact with the medical profession enables us to serve you promptly and efficiently in this dedicated field. We will fill all of your needs from stock because we specialize in service to schools of nursing, hospitals, institutions, and libraries. We carry all publishers' books in the medical profession. Non-medical books are also available through our trade department for your convenience.

No. 35—Warner-Chilcott Laboratories

Your Warner-Chilcott representatives cordially invite the members of the Medical Society of Delaware to see and discuss what's new at Warner-Chilcott, Booth #35.

COFFEE — COURTESY, HOMEMAKERS-Upjohn

SCIENTIFIC EXHIBITOR

R. Douglas Sanders, M.D., Senior, Dept. of Anesthesiology, Wilmington Medical Center.
Jeffrey W. Blomstedt

Contamination of air with halothane in operating rooms, rubber parts of apparatus, and CO_2 absorbers was shown by photographs, table, and graphs. All samples were analyzed with flame detector chromatograph.

Air of operating rooms was found to contain .001% to .003% halothane during its use in anesthesia.

Air within removed rubber parts of apparatus contained .014% after use. On standing for 20 hours, it increased demonstrating absorption and gradual release by the rubber.

Air in recently used CO_2 absorbers contained 0.3% to 0.82% halothane. Decontamination by flushing with 4 liters per minute flow removed 96% in 10 minutes. When half an atmosphere vacuum and flow were used, 98% was removed in ten minutes. In one instance residual volume of halothane removed from the apparatus was calculated to be 59cc. A canister containing activated carbon proved to be an efficient method of removing halothane from an exhaust line attached to the carbon-dioxide absorber.

* * *

The Medical Society of Delaware gratefully acknowledges the assistance of the following in the presentation of the program:

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Delaware
Medical Journal

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HEART MURMURS IN CHILDREN

Functional or Organic?

• Serious cardiac lesions are constantly being re-evaluated in the light of new knowledge, resulting in continuing changes in approach. However, a problem like innocent murmurs, because of its very innocence, is not subjected to this kind of continued re-evaluation. The differentiation of innocent from organic murmurs is nonetheless of tremendous importance, because of its extremely frequent occurrence and because of the potential for iatrogenically-induced cardiac neurosis. This article is an attempt to look at this old problem with a somewhat fresh look, realizing that auditory phenomena are not best learned via the written word.

Arthur Levy, M.D.

I am going to take some license with the topic of innocent murmurs. First of all there is a message I want to deliver which focuses on a major problem in the office practice of cardiology related to the care of children with cardiac disease. The separation of adult and pediatric cardiology has become a fact of life and I think has resulted in a communication gap, at the important level where a great deal of the cardiac care in this country goes on — in the office of the internist and family practitioner.

Pediatricians and family practitioners at least in northern New England often turn to the local cardiology expert, who is usually an internist, for help with children with heart disease. The internist, who may have had some special training in cardiology, usually has had little or no exposure to pediatric cardiology and is frequently no more capable of providing the help needed than anyone else in the community. Pediatric cardiologists have developed many basic skills in the diagnosis of congenital heart disease but, as a small group, have not had the time, energy, or inclination to pass these skills on to pediatricians, let alone to internists. I don't mean this as a criticism because there are some pediatric cardiologists who have put tremendous amounts of effort into postgraduate education. Nonetheless, I think there is a real communication gap at a very vulnerable level in the pathway which carries a child with congenital

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Dr. Levy is Associate Professor, Medicine and Pediatrics, University of Vermont College of Medicine, Burlington, Vermont.

This paper was adapted from a presentation to the David Fleet duPont Memorial Lecture, Wilmington, Delaware, April 24, 1971.

heart disease to correct diagnosis and treatment. There is a definite responsibility implied in caring for a child who may have congenital heart disease, and the ability to diagnose these serious lesions or at least to recognize potentially serious lesions and get children with these problems into the right pathway is the name of the game.

There are a number of ways to approach the problem of deciding what a systolic murmur in a child actually means. One way is to look at the various types of systolic murmurs and see if they can be classified so that the innocent murmurs are separated from the organic murmurs. For the past 15 years most cardiologists have been working with a system introduced by Aubrey Leatham from London. Basically Leatham said that systolic murmurs can all be broken down into two types, ejection and pansystolic. Ejection murmurs are related to ejection of blood from the ventricles and therefore have the following characteristics:

1. A pause between the first heart sound and the murmur (related to isometric contraction phase between the closure of A-V valves and opening of semi-lunar valves).
2. A diamond-shape to the murmur (crescendo/descrescendo).
3. A short length of the murmur.

However, it is obvious that only the first of these criteria holds up as absolute: not all of these murmurs are diamond-shaped, and one of the longest systolic murmurs there is sometimes occurs secondary to pulmonic stenosis with the murmur lasting all the way up to the second or pulmonic component of the second sound. The problem with the first criterion is that while it can be seen on a phono tracing, the gap between S_1 and the murmur is very frequently not audible. It has been a useful concept to think of murmurs as occurring essentially with ejection or with regurgitation, but even Leatham now admits that more information is needed such as whether these are right-sided or left-sided events, etc.

For some time we have taught our students that any murmur that lasts through systole is pansystolic or holosystolic. This makes sense since these are descriptive terms relating to length. Any murmur shorter than this, we describe as ejection, but more description is needed as to its place in the cardiac cycle, ie, early, mid-, or late systolic. Pansystolic or holosystolic murmurs are not the innocent variety one is concerned about diagnosing, so their separation does cut the pie in half and now we can talk about the approach to a child who presents with a systolic murmur which is shorter than pansystolic.

There are some helpful clues. Was the murmur present as a newborn? It is my impression that systolic murmurs present in the nursery which persist into infancy and childhood are probably less likely innocent than organic. Is there any other evidence for an organic outflow deformity such as pulmonic stenosis, aortic stenosis, or more rarely, coarctation of the aorta?

There are some other very important clues to the presence of an organic murmur. One of those things we didn't learn in medical school is how to recognize systolic ejection clicks. This is not an easily learned skill in practice because one has to hear a few with someone standing by and pointing out, "That's a systolic ejection click." One of the major problems with learning to recognize these clicks is that there is the theoretical expectation that one should hear S_1 — pause — click — pause — ejection murmur. This occurs on occasion, but it is much more common to have the ejection click change the quality of the first sound complex and make the S_1 itself sound very clicky or metallic. In general, clicks are present when there is a deformed aortic valve or pulmonic valve and are usually opening snaps of these valves. It is somewhat unfortunate that we talk about opening snaps of stenotic mitral valves occurring after S_2 and ejection clicks of stenotic pulmonic or aortic valves occurring after S_1 if they are basically caused by the same mechanism.

Systolic Thrills

What are the other clues of outflow abnormality? Since we are talking about ejection murmurs, we are basically talking about ventricular outflow abnormalities as the underlying cause. Systolic thrills are associated with most of the organic outflow murmurs, and the suprasternal area is a particularly fruitful place to find these thrills. The presence of a thrill at the suprasternal notch almost always denotes underlying aortic stenosis, pulmonic stenosis, or coarctation of the aorta. Ventricular septal defects, a common cause of systolic thrills, do not result in suprasternal notch thrills.

The finding of a precordial or suprasternal systolic thrill *rules in* the presence of an organic murmur. Interestingly, the resolution of the differential diagnosis mentioned above of aortic stenosis, pulmonic stenosis, and coarctation can often be done with the hand. After feeling the basilar or suprasternal thrill, one should concentrate on feeling the precordial impulse. A right ventricular (left parasternal) impulse would lead one to strongly suspect pulmonic stenosis as the cause of the murmur while an impulse maximal at the apex would suggest aortic stenosis or coarctation. Palpation of the femoral and brachial pulses should distinguish between these two entities. More important, however, is that the finding of a suprasternal notch thrill is extremely helpful when one hears a systolic ejection murmur, for it should exclude the conclusion that this murmur is innocent.

We've now discussed what a functional or innocent murmur *isn't*, and you may be ready to conclude that I have said the diagnosis of an innocent murmur is one of exclusion, which would be an easy way out. Rather, one must consider the organic possibilities when one hears a systolic murmur and look for the associated clues which have been mentioned.

Fortunately there is a very common innocent murmur that has a distinctive quality or character. It is short, early systolic, (ie, usually ending by the middle of systole) and buzzing. This has been called musical because the frequency is very even, and this murmur looks like a picket fence on a phonocardiogram. Nonmusical murmurs do not have this very regular frequency, and most murmurs are nonmusical. Even so, musical is not a good descriptive phrase, and, at least to me, they sound buzzing.

Are all short buzzing systolic murmurs innocent? Probably not, but if this is the only positive physical finding, chances are very much in favor of this diagnosis.

I want also to mention three other murmurs which are seen very commonly in the pediatric and adolescent age groups. Recognition of mid-systolic murmurs and mid-systolic clicks was not taught in medical school to most physicians who are now in practice. Their discovery is one of those difficult-to-understand happenings; they are very common now that we are aware of them yet not long ago we missed or misinterpreted almost all of these. The concept of atypical mitral insufficiency secondary to papillary muscle dysfunction in patients with ischemic heart disease has focused everybody's attention on this type of murmur. In children, atypical mitral insufficiency with this same mid-systolic murmur is also very common. The newer concept of the mitral valve apparatus being a complex combination of annulus, leaflets, chordae, papillary muscles, and left ventricular wall explains why so many different lesions can cause mitral insufficiency and why the valve can be competent early in systole and incompetent later in systole. A mid-systolic click is often associated with the herniation of a mitral leaflet into the left atrium. The click may be present by itself although maneuvers that change the dimensions of the left ventricle can bring out the murmur, ie, cause incompetency of the mitral valve.

One concept that bothers me is the oft-repeated statement that children with these murmurs or clicks have a benign process. I do think they have a *relatively* benign process in that there is mild insufficiency when these findings are present and they tend to remain stable over a number of years. I am not sure there is enough evidence to say this is benign over the long haul. It has been recently demonstrated that left ventricular contraction abnormalities are the basis for some cases of this type of normal insufficiency. There is, in fact, evidence that some cases with atypical mitral insufficiency belong in the broad spectrum of left ventricular hypertrophic states, which include idiopathic hypertrophic subaortic stenosis, and thus a child with only this murmur may progress to a more severe hypertrophic cardiomyopathy when the underlying pathology is in the myocardium and not in the valve leaflets themselves.

The Straight Spine Syndrome

This completes the types of systolic murmurs of which we are now aware. However, there are two other benign conditions I want to mention which are the most common conditions referred to me which turn out *not* to be true cardiac disease. The first is the straight spine syndrome or *thorax planus*. These patients have basilar systolic ejection murmurs, maximal at the second left intercostal space. The PA chest x-ray shows a somewhat enlarged or "pancaked" cardiac silhouette, and the lateral film shows a very narrow A-P diameter with very little space between the posterior cardiac border and the thoracic spines. (Figure 1)

Thus this murmur with this x-ray — and one does not absolutely need an x-ray to determine A-P diameter of the chest except that physicians rarely turn the patient sideways to observe this chest dimension — is enough to make the diagnosis of straight spine syndrome. For those who like to quantitate, the following measurements can be made.[4] (Figure 2)

AP Diameter of Thorax (APDT)/Transverse Diameter of Thorax (TDT) = 0.4 or less

The quotient 0.4 is used as the upper limit of normal, and anything less than this can be called straight spine syndrome when the patient has an associated systolic ejection murmur. APDT is measured from posterior surface of sternum to anterior vertebral margin at the level of T8. TDT is defined as the distance between inner rib margins at the level of the right diaphragm.

There is at least one major problem associated with this diagnosis. The pulmonary vascular pattern usually looks quite prominent with this syndrome, but the triad of an ejec-

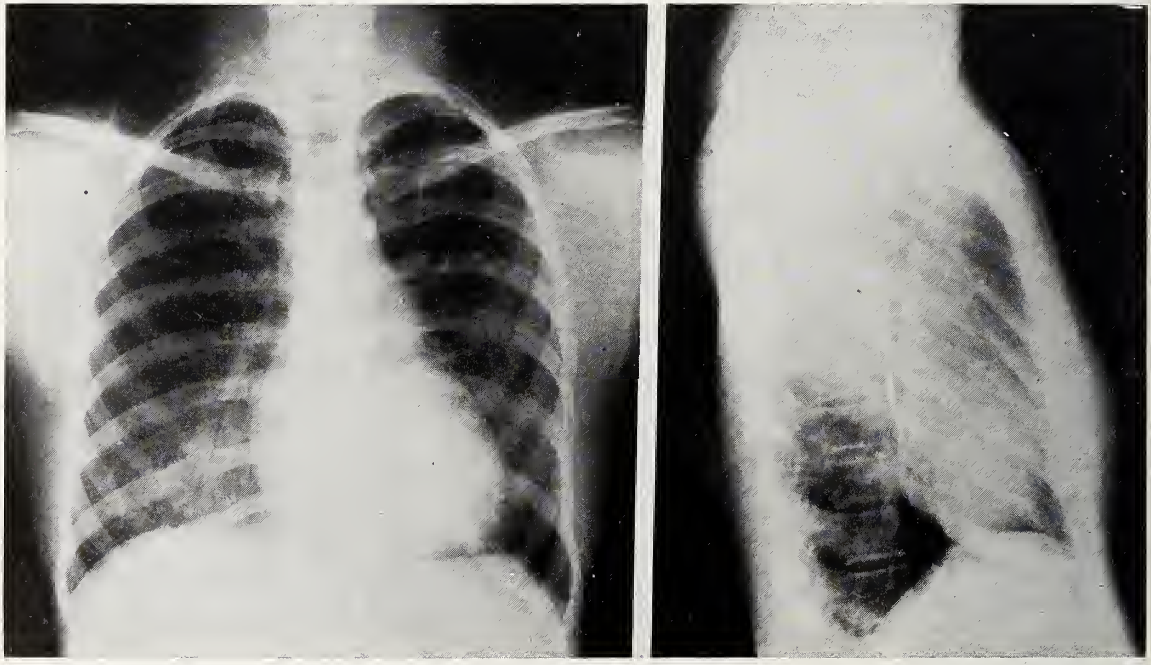

FIGURE 1

PA and lateral chest films of a patient with straight spine syndrome. The narrow antero-posterior chest diameter is illustrated as are the prominent cardiac silhouette and proximal pulmonary vasculature.

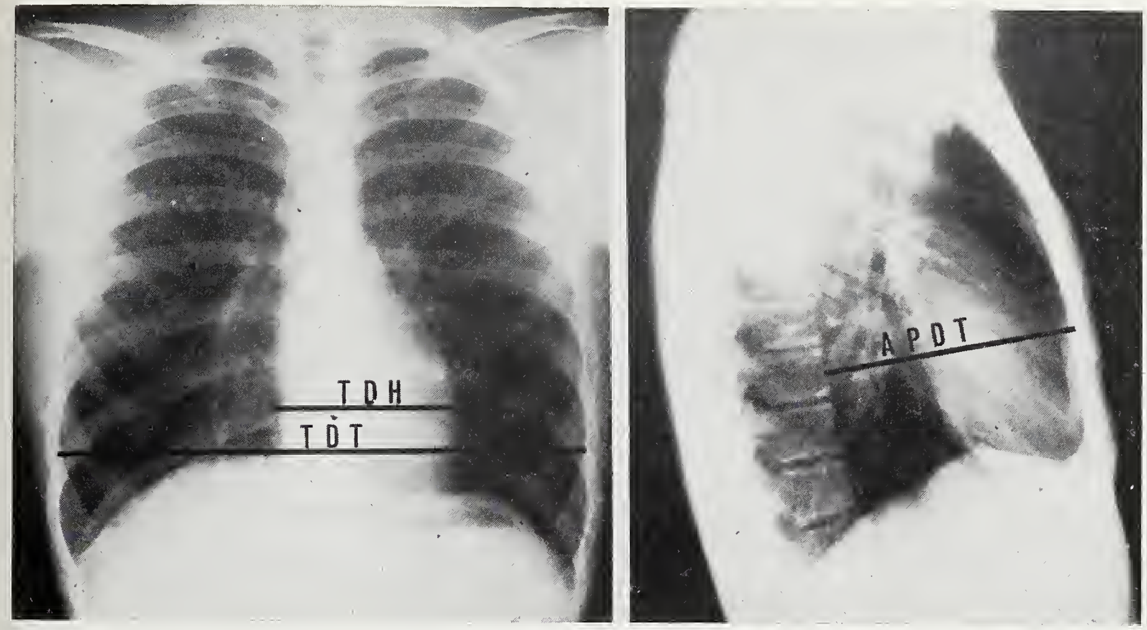

FIGURE 2

X-rays of a normal heart illustrating the diameters to be measured in making a radiographic diagnosis of straight spine syndrome. APDT (antero-posterior diameter of thorax) is divided by TDT (transverse diameter of thorax) with 0.4 as the lower limit of normal of this ratio.

tion murmur maximal at the second left interspace, an x-ray showing cardiomegaly and prominent pulmonary vasculature, could just as well be the classical description of a patient with an atrial septal defect. In order to rule out an associated ASD when diagnosing a straight spine syndrome, one has to evoke the subleties usually needed to uncover uncomplicated ASD's. Last year we saw two such cases of patients with the above mentioned criteria for straight spine syndrome who aroused considerable controversy over the need for hemodynamic studies to look for additional organic heart disease. (Figure 3) Because of a fixed split S^2 and a right ventricular conduction delay on EKG, cardiac catheterization was carried out; both patients had moderately large atrial defects requiring cardiac surgery. This should not detract from the fact that straight straight spine syndrome is an entity and does usually mimic organic heart disease.

The Venous Hum

A second benign condition is the venous hum. Over the years I would estimate about half of the patients referred to our service with a diagnosis of suspected patent ductus arteriosus have had venous hums. I think the best policy when seeing any patient with a continuous murmur is to try and rule out a venous hum with some easy manipulations. Patients with venous hums demonstrate at least one of the following:

1. The intensity of the murmur may change strikingly with rotation of the head.
2. The murmur is loudest in the upright position.
3. One can usually feel a thrill over the jugular veins.
4. Compression of the jugular veins diminishes, although may not abolish, the murmur.

The most useful method I have found to confirm the diagnosis of a venous hum is to listen over the area of the murmur while compressing the jugular vein on that side. When

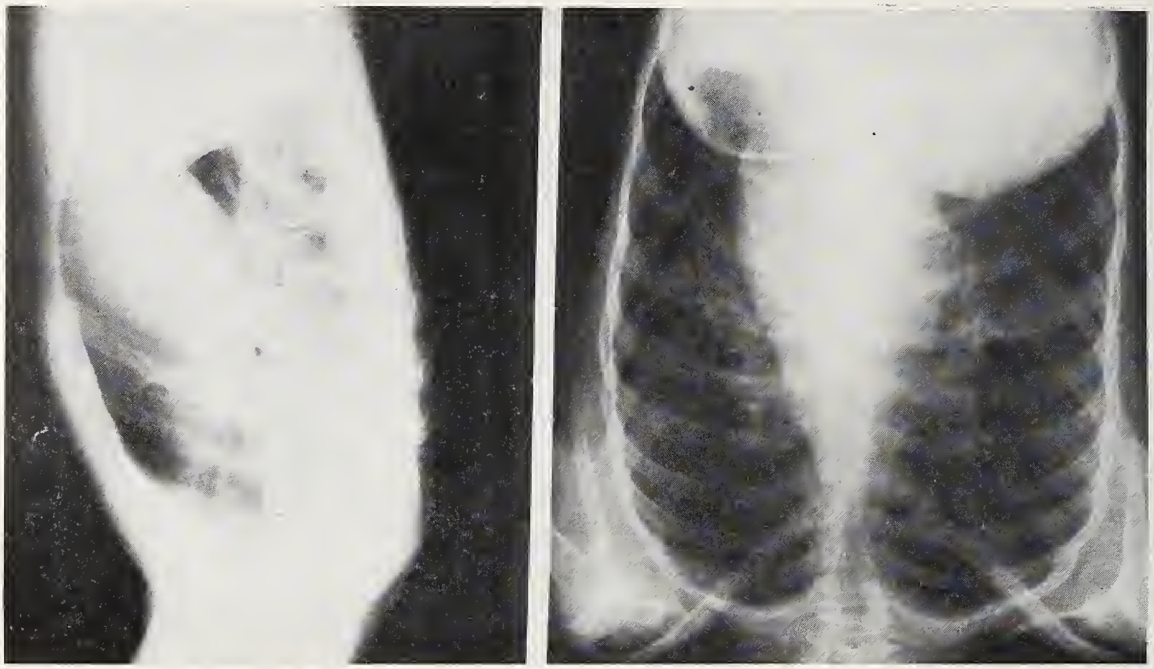

FIGURE 3

PA and lateral chest films of a patient with thoracic measurements consistent with a straight spine syndrome but who has an atrial septal defect in addition. Note that the addition of the atrial defect does not appreciably change the cardiac silhouette and pulmonary vascular pattern from those seen in Figure 1, where there is no associated ASD.

this compression is suddenly released, there is a sudden loud "gush" or increase in the murmur. Even if the compression did not result in much change in the murmur, this increase with relief of the compression is very striking.

In summary, the things I think of most help in the differential diagnosis of innocent from organic systolic murmurs are these:

1. Innocent murmurs are almost always less than holosystolic.
2. The most characteristic innocent murmur is a short, early, systolic, buzzing murmur.
3. Associated abnormal physical findings should be searched for, especially ejection clicks, abnormalities of the second heart sound, thrills — particularly in the suprasternal notch — and abnormal ventricular lifts.
4. When in doubt (ie, when the characteristic short buzzing murmur is not the one you hear and yet there are no other findings to clinch a diagnosis of an organic defect), then the electrocardiogram and x-ray may be helpful but only if these are interpreted by someone who has mastered the approach to pediatric EKG's and pediatric x-rays.

Be very clear in what you tell the parents. Don't restrict children when there is a question of innocent versus organic murmur. If you are convinced this is innocent or next to innocent, tell the parents this and don't nourish a tiny seed of doubt for years and years. At some point, you have to make this decision.

To remind students of the seriousness of cardiac neuroses, I read to them the following passage from John Barth's "The Floating Opera."* I think all physicians need to be reminded on occasion of the seriousness of iatrogenic cardiac disease, and I have yet to discover a more effective method than this quotation:

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*We thank Appleton Century Crofts, Inc., New York for permission to reproduce this section from "The Floating Opera."

"That's right, I pay my hotel bill every day, and reregister every day, too, despite the fact that the hotel offers weekly and monthly and even seasonal rates for long-term guests. It's no eccentricity, friend, nor any sign of stinginess on my part: I have an excellent reason for doing so, but it is a *raison de coeur*, if I may say so — a reason of the heart and not of the head. . . . . . And no less than one billion, sixty-seven million, six hundred thirty-six thousand, one hundred sixty times has my heart beat since a day in 1919, at Fort George G. Meade, when an army doctor, Captain John Frisbee, informed me during the course of my predischarge physical examination, that each soft beat my sick heart beat might be my sick heart's last. This fact — the fact that having begun this sentence, I may not live to write its end; that having poured my drink, I may not live to taste it, or that it may pass a live man's tongue to burn a dead man's belly; that having slumbered, I may never wake, or having waked, may never living sleep — this for thirty-five years has been the overwhelming condition of my existence, the great fact of my life—had been so for eighteen years already, or five hundred forty-nine million, sixty thousand, four hundred eighty heartbeats, by June 23 or 24 of 1937. This is the enormous question, in its thousand trifling forms (Having heard tick, will I hear tock? Having served, will I volley? Having sugared, will I cream? Having eithered, will I or? Itching, will I scratch? Hemming, will I haw?), toward answering which all my thoughts and deeds, all my dreams and energies having been oriented . . . . . I chose and choose to pay my bill daily, every morning, instead of weekly or seasonally. Don't think, I beg you, that I bear not living to get my money's worth if I pay too far ahead: lose money I might, but fear losing it, never. There's nothing in me of Miss Holiday Hopkinson, my ninety-year-old neighbor and senior member of the D.E.C., who buys her one-a-day vitamin pills in the smallest bottles — for her, the real economy size — and sleeps fully dressed, her arms folded funereally upon her chest, so as to cause, by her dying, the least possible trouble for anybody. No, I pay my buck-fifty every morning to remind myself — should I ever forget! — that I'm renting another day from eternity, remitting the interest on borrowed time, leasing my bed on the narrow chance I may live to sleep on it once more, for at least the beginning of another night."

* * *

Pictured here at a cocktail reception in the Mandarin Hotel, Hong Kong, are Dr. Norman L. Cannon and Dr. and Mrs. Peter Potocki. They were part of the group of Medical Society of Delaware members touring the Far East recently. Next year's tour will include the Scandinavian countries and will take place early in June.

KNOWING WHAT GOES ON

Or

Cohort Review in Primary Care

• Cohort review is the process by which the busy physician can look at groups of patients with something in common. How it is done, and what advantages it has, are described in this article by a family physician who has used such methods in a busy practice for ten years.

David H. H. Metcalfe, M.B., B.Chir.

Introduction

The medical records of the average practitioner, whether family physician, pediatrician, or internist, contain a wealth of clinical information proportional to the skill and energy of the doctor who writes the notes. Dependent on these factors, his charts allow him to record and control the care of each individual patient. But, unless additional mechanisms of retrieval and review are added, they do not give him any further capabilities.

What capabilities might he need? Basically, what he needs is to know what goes on in his own practice. He needs to know this for reasons of practice organization, staffing, and equipment. He needs to know this to analyze and design his own needs for postgraduate and continuing education. And he needs to know this in order to have an outreach capability for practicing preventive medicine on the patients who have put their care into his hands. For too long doctors have dealt only with the problems that came through the door without making any attempt or having any capability to deal with problems within the community outside or in patients before they reach the door.

Physicians have organized and run their practices "flying by the seat of their pants" and, although always ready to make broad statements about their practice and its nature based on "clinical experience," most can be shown to have very poor quantitative knowledge of their practice and its activities. Obviously, the busier a doctor is, the less likely he is to remember every case of every disease that he sees.

What Is Cohort Review?

Cohort review is the ability to look at groups of patients (or their records) who have something in common. The systems described in this paper are to enable an ordinary primary care physician to do this without needing a computer, a research secretary, a lot of money, or a lot of time.

There are three main ways of grouping patients which are useful to a primary care physician.

First is grouping by geographic area. This has obvious epidemiological advantages, and since there is in most areas a broad correlation between social class, life style, and address, this grouping gives the doctor a handle on socio-economic cohorts as well. Grouping can be achieved by filing patients in family or household folders, and then filing these folders by geographical area. The easiest way of deciding on geographical areas is to use the "census tracts" of the US Bureau of Census. By using these, the financial, educational, and

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social data available from the US Bureau of Census for each census tract become applicable to the patients of the practice. Such cohort delineation would allow, for instance, easy marking of all charts of children in the "lead belt' of a large city, or all households living in an area of heavy air pollution downwind of a chemical factory, or all people living in an area of poor, derelict, or ghetto housing who are obviously "at risk" to a wide range of conditions.

Age and Sex Index

The next cohort type is the age and sex group, and this, in fact, can be retrieved for review by constructing an age and sex index. This is done by writing a card for each patient, showing his or her name, date of birth, census tract, and such other information as may seem appropriate, and filing these by year of birth. If blue cards are used for males and pink cards are used for females, the sex structure of each age group is clearly demonstrated. These are usually filed with five year spacer cards so that each group of the population can be easily counted in five-year spans. An age/sex index allows cohort review for a variety of purposes: for instance, a review of all five-year-olds to see what their immunization status is; a review of all 25-year-old women to see whether they have started having regular Pap tests; a review of all males of 45 to see if a base-line blood pressure has been recorded; a review of all patients over 70 to see whether they live alone, with a spouse, or with a family, and how vulnerable to illness their social arrangements are. Such a knowledge of the practice population allows operational planning, for instance, in terms of the special responsibilities and experience of the doctor's nursing staff. A large juvenile population will require a nurse with pediatric experience, whereas a large elderly population might require a nurse with geriatric experience. An analysis of the size of the population of women in the childbearing age will allow the doctor to predict his obstetric booking rate, etc.

The age and sex cards can be used, by edge punching or clipping on "flags" to show certain disease processes or "at risk" patients. For instance, all cardiac cases could be flagged, or cancer cases could be flagged, or diabetics could be flagged, or all patients with a family history of hypertension could be flagged as a way of reviewing cohorts by diagnosis or risk factors. Obviously this is limited by the number of differentiable flags that can be attached to any one card and if it is intended to have a cohort review capability with regard to diagnosis, it would seem more sensible to have a manually retrievable diagnostic index.

The diagnostic, or morbidity, index is constructed by creating what is in effect a card index of all patients' illnesses, diagnosis by diagnosis. Experience has shown that it is most convenient to do this by attaching a code number to each diagnosis. The choice of the code, however, in primary care is difficult since the international classification of disease (ICDA) in fact is unsuitable. (The ICDA is the version of the ICD Amended to fit American morbidity.) It is unsuitable because it attaches an individual number to every known firm diagnosis, regardless of its frequency, and it is obviously inappropriate in primary care to have equal numerical weight for something very common like bronchitis, and something uncommon like Von Willebrand's disease. Some workers have contented themselves with merely entering patients under one of the 18 categories of the ICDA, ie, I communicable; II neoplastic; III allergic, endocrine and metabolic; IV blood and blood forming organs, etc. Unfortunately, this is not satisfactory, either. While it is interesting to note that 15% of your work deals with respiratory tract infections, this is meaningless unless you know how many were common colds and how many were pneumonias. Equally, for retrieval purposes, this crude classification is well nigh useless.

In the late 1950's the Royal College of General Practitioners (RCGP) of Great Britain went a long way toward solving this problem by combining the results of many detailed morbidity surveys to provide the College of General Practitioner's Classification of Disease. This is, in effect, a selection of the most commonly occurring conditions listed in the ICD, using the same descriptive rubrics, but attaching a convenience number. This convenience number is, therefore, fully interchangeable with the ICD number and allows studies from all over the world to be combined. Since that time, the RCGP Classification has been continuously updated and has matched the updatings of the ICD and ICDA. A retrospective study of a thousand patients of the Family Medicine Program at Rochester showed that there were no significant differences in morbidity between the United States and Great Britain, and that this would be a valid classification of disease for use in the United States. At the same time, the research team of the Rochester program felt that they could utilize some of the spare unassigned numbers and add some other numbers to enable the College Classification to be used with Problem Oriented Records.

How Is This Used in Practice?

The doctor, having reached a diagnosis, or having decided which is the key symptom if he has not yet reached a diagnosis or identified the main problem if it is a psycho-social problem type of situation, puts down on the record a code number from the RCGP Classification. For instance, acute bronchitis is 247. In the normal practice setting, his secretary, before refiling the record, enters the patient's name, date of birth, and census tract on an appropriate file card numbered 247. As can be readily appreciated, that card as the weeks go by, will gradually fill up with the names of all patients who have had acute bronchitis, and since it records their age and census tract, it will allow an immediate study to be done of the age and sex incidence of acute bronchitis and its geographical distribution in that doctor's practice. These cards can be index cards, filed by number, or they can be the slips designed by the RCGP for use in a multi-sheet ledger which is known as the "E" Book.[1] One of the RCGP slips is shown in Figure 1 and a sketch of how they are mounted in the "E" Book is shown in Figure 2. It is usual to file males on the front side of the card and females on the back. When a card is full, the second card is mounted directly beneath it.

The advantage of the doctor doing the coding is that he is able to select from his clinical impression of the situation the most appropriate code; this really is a doctor's decision. After that, since it is purely a number, the further processing can be done by somebody of very low skills, indeed. It doesn't need a high-grade secretary because no clinical decision making is required. The doctor very quickly gets to learn the common numbers which he therefore writes into the record with little addition to the time taken to write the record, perhaps five seconds per record. The time taken to look up unusual conditions may be longer, but it is very unlikely that it would take more than 30 seconds for any patient visit. Secretarial time requires about an hour to an hour and a half for 200 patient visits per week.

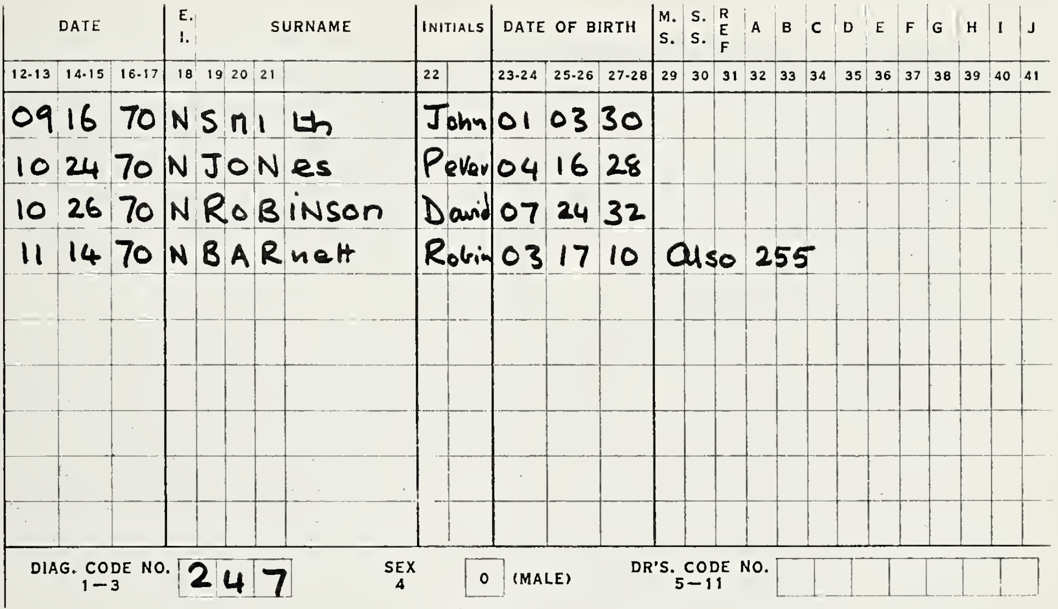
The doctor can, of course, decide to use his diagnostic index selectively, ie, to enter only those of serious or significant situations in which he is interested, but in fact this is more difficult to do than coding and entering everything, because it requires the doctor to make a decision each time as to whether it should be indexed or not, and building anything into a practice routine is easier if no decisions have to be made each time the patient is seen.

The ledger is stripped at regular intervals, say every six months or one year, and the used cards kept in a holding ledger for back reference when necessary.

The Uses of a Diagnostic Index

The fundamental importance of a diagnostic index, like an age and sex index and census tract filing, is that it shows the doctor what is going on in his own practice in a hard-edged, quantifiable way. This has many uses and implications, more and more of which become apparent as time goes on. Some of the fundamental ones are as follows:

1. Preventive medicine outreach. All patients with a known family history of diabetes can be sent a urine testing stick to test their own urine from time to time. All patients who are high risk to flu can be sent an invitation to come in for a flu vaccination at the beginning of the winter. All obese patients can be invited to a group therapy obesity control clinic if one



DATE			E. I.	SURNAME	INITIALS	DATE OF BIRTH			M. S.	S. S.	REF	A	B	C	D	E	F	G	H	I	J
12-13	14-15	16-17	18	19 20 21	22	23-24	25-26	27-28	29	30	31	32	33	34	35	36	37	38	39	40	41
09	16	70	N	Smith	John	01	03	30													
10	24	70	N	JONes	Peter	04	16	28													
10	26	70	N	RoBINSon	David	07	24	32													
11	14	70	N	BARnett	Robin	03	17	10	also 255												

DIAG. CODE NO. 1—3 247 SEX 4 0 (MALE) DR'S. CODE NO. 5—11

NP.9038

FIGURE 1

E Book slip for acute bronchitis 247

Column 18 is for episode type: new, old, recurrent, etc.

Column 29 is for marital status.

Column 30 is for socio-economic status.

Columns 31-41 are for any use the doctor may think up.

is set up. In the same way all diabetics could be asked to a diabetic club meeting.

2. Self-monitoring and quality control. It is very difficult to know when one's performance as a primary care doctor is slipping. It is equally difficult to know whether the control of a chronic condition is less than optimum because of the patient's failure to cooperate. Record review is the tool to correct both these situations. This can be linked with the doctor's own postgraduate educational program. For instance, he may decide that in December he will "do" hypertension. He will therefore read textbooks, review articles, and recent literature on the theme of management of the hypertensive patient. From his reading he can construct a profile of the well-managed patient. From his diagnostic index he now gets the names of all his hypertensive patients, pulls their charts, and determines how many of these measure up to the profile he has constructed. This has several advantages; his self-education is reinforced by early use, and his patients reap an early benefit from that self-education in that their management is improved. Just as the age and sex index can be used to monitor the immunization status of five-year-olds, so the diagnostic index can be used to monitor the care of chronic conditions, such as hypertension and diabetes or the care of acute conditions such as cystitis (finding out how many patients were followed until they had two negative urines).

3. Linking postgraduate education to practice (further than the ways indicated in the two above). If the doctor goes to a lecture, for instance, on Parkinsonism he can come home and extract from his diagnostic index the charts of his Parkinsonian patients. He can then review these charts and see which of his patients would benefit from L-Dopa. In this way he gets immediate reinforcement of his learning process, and the patient gets immediate benefit from his postgraduate education.

4. A clear quantified knowledge of the morbidity as seen in primary care, particularly if culled from a group of practitioners us-

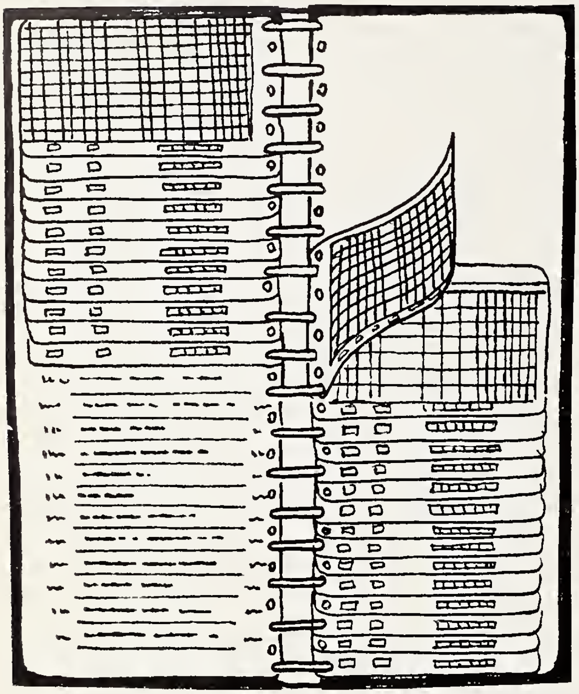


Figure 2

Diagnostic Ledger
The "E" Book

ing morbidity indexes, should have considerable impact on the educational fare offered by the local medical center or other agencies purveying postgraduate education, such as the RMP. The relevance of the programs offered can be directly compared to the frequency with which the conditions taught about occur in primary care. Those who complain about the inappropriateness of postgraduate education offered by medical schools to the in-service practitioner forget that the medical school has no way of finding out what really goes on outside its walls, and that there is an onus on the primary care physician to supply that data. It can then be used by the medical school for designing postgraduate education, and it might even affect the education of medical students, interns and residents!

5. A clear knowledge of the shape and size of the morbidity seen in a practice allows the doctor to make some forecast as to staff and equipment and patterns of office procedures that he will need to deploy for the most efficient running of his office practice. It will allow him to select the appropriately trained physician assistant and to lay down what that person can and can not do.

6. Lastly, for those interested, a morbidity index is of course the foundation of a research capability. It is a basic epidemiological tool, and the true strength of the primary care physician in medical research is epidemiological, ie, in establishing and demonstrating the patterns of disease. In addition to investigating and demonstrating the patterns of disease, in terms of incidence, duration, sequelae, etc., epidemiological studies of valid ways of showing patterns of utilization of health care facilities can be adapted to studies of health care costs.

In these areas the information from a single practice is not particularly useful. If, however, it can be compared to another practice and the practices bear comparison in terms of their size and type of population, then differences in the pattern become immediately apparent and may well prove the starting point for interesting research. Since comparison is essential to this basic area of research, it is very important that the standardized recording methods and particularly use of standard descriptive rubrics of disease are adhered to; otherwise studies and practices are not comparable and frustration and disillusion set in. There is a crying need for some central coordinating and communication research body for primary care that would put researchers in touch with each other and avoid duplication and overlapping of research programs.

Research in primary care is in its infancy in this country, and an ability to receive advice on methodology, etc., would also be a very valuable facility to have. This too could be provided by a central research advisory service. It is important that such essential service is not vulnerable to either political or commercial influence, but is purely academic.

Summary

The need for cohort review capability in primary care is discussed. Methods of providing cohort review capability in primary care in terms of age, sex, geographical area, socio-economic status and diagnosis are described. Some of their uses are discussed. The need for an essential clearing house of information on research in primary care is laid down.

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DELAWARE'S MEDICAL EDUCATION PROGRAM

• The Delaware Institute for Medical Education and Research (DIMER) is now in its third year of operation providing opportunities for a medical school education for residents of Delaware. It is entering the phase when active teaching of third and fourth year students in Wilmington will be fully implemented. Some basic concepts and philosophies of the educational program are reviewed as well as some specific suggestions to the practicing physicians who will be doing most of the teaching. There exists the possibility of eventually developing a new medical school under the University of Delaware, but this is still in the unknown future.

E. Wayne Martz, M.D.

After some introductory comments I intend to discuss four general areas related to medical education: (1) DIMER, the Delaware Institute for Medical Education and Research. (2) My concepts of a Medical Education Program. (3) What to do when the students come. (4) A medical school for Delaware?

When the opportunity arose for me to speak with you I seized it eagerly, first to express my sincere thanks and appreciation for your personal sacrifices and the support all of you have given to medical education, and second, to try to clear up misunderstandings which may exist about any one of the areas I have mentioned. I know they exist because I have had members of our staff tell me certain things which they feel they "know to be an absolute fact," not realizing that these "facts" are frequently diametrically contrary to what another "knows for a fact." For example, one physician told me that he knows for a fact "University of Delaware students are given top priority under the DIMER Program," and a few days later another man told me that he knows for a fact "University of Delaware students are not really very welcome in the DIMER Program and preference is given to those who go out of state to college." Obvi-

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This address was originally presented to the New Castle County Medical Society on March 21, 1972.

ously, neither of these men is right, but they represent examples of extremist thinking that tends to polarize problems, that tends to create divisive, "us and them" type thinking. Fortunately the "us and them" group is very small, although at times it is very loud and vocal and, in the emotionalism of the moment, may be able to influence a large number of otherwise rational people. Thus, I want to say emphatically that the common goal of all our educational programs and of each and every one of us is the same: Optimal patient care.

In the fashion of the day we discuss primary, secondary, and tertiary patient care: primary, whether the Wilmington Medical Center should get into it, as community pressure would have them do; secondary, which we already provide, and I think in admirable fashion; and tertiary, which we are becoming involved in more and more. However, there is one more aspect of patient care which I think is critically important and that is the patient care of the future. Who will take care of the people of this state ten, twenty, and more years from now? This question must be a very serious concern for every one of us.

Whether we like it or not, the Wilmington Medical Center — and the constituent hospitals which originally merged to form it — has been a major factor in health care in the State of Delaware. At the present time approximately 70% of all the doctors in Delaware are members of the staff of the Wilmington Medical Center; 60% of all non-governmental general hospital beds in the state are in the Wilmington Medical Center, and 60% of the total admissions each year are to the Wilmington Medical Center. Half of our own doctors and over 40% of all the doctors in the state received part or all of their post-doctoral training in Wilmington. Thus, as I said, whether we like it or not, the Wilmington Medical Center has a very real and very serious, statewide responsibility. This is why I have entitled my talk "*Delaware's* Medical Education Program."

Because of our size and influence we are very often resented and feared in other parts of the state, and our motives are constantly under suspicion. This does not, however, lessen our responsibility one bit. We must constantly try our best to extend a hand of friendship. We must try unceasingly to be helpful in every way we possibly can. We must involve the other doctors and other hospitals in our educational programs as partners, and we must respect their rights and their pride, even as the practicing physicians on our own staff expect the salaried educational group to respect them.

DIMER

It is because of the statewide need for doctors that the DIMER Program was instituted. This program is supported by state funds which are generated by statewide taxes. It exists for the benefit of the entire state and its people. The agreements under DIMER provide for a three-way affiliation involving Jefferson Medical College of Philadelphia, the University of Delaware, and the Wilmington Medical Center. Each has its own role to fulfill. The University of Delaware receives state funds to strengthen its preclinical science departments. Jefferson Medical College is subsidized on a per capita basis for those Delaware residents whom it accepts, thus insuring at least twenty places in each class for Delawareans. The students spend their first two years in Philadelphia at Jefferson, following which they spend a major portion of their last two years at the Wilmington Medical Center. Jefferson supervises and is responsible for the quality of the clinical years in Wilmington and ultimately bestows the M.D. degree. Obviously, the state could have saved money by subsidizing only Jefferson and sending our Delaware boys and girls to them for the entire four years. However, experiences elsewhere indicate that the vast majority of these students would then never return to Delaware. The theory is that students tend to settle ultimately where they are trained. The Wilmington Medical Center has expanded its intern-resident programs in order to assist with the teaching load and also to provide a place for increased numbers of young physicians to complete their training. To provide Delawareans with the M.D. degree without a top quality location within the state in which to continue their education and training would be like doing a femoral artery graft with all the smaller arteries of the leg occluded. There would be no opportunity for run-off, and the whole operation would be futile. The usual experience is that approximately half of the persons finishing a good intern-resident program will ultimately settle and practice within fifty miles of the place where they trained. If we can involve the other hospitals within the state in our educational programs so that our interns and residents through frequent contacts realize that there is high quality medicine there also, then they will be far more interested in practicing in *all* areas of the state.

The number of Delawareans accepted at Jefferson was originally set at twenty per year because for the previous 10-15 years there were only twenty to twenty-five Delaware residents each year applying for medical school anywhere in the United States. It was felt that twenty positions would satisfy all the qualified Delaware applicants. However, in the first year of operation there were thirty-four applications, the second year over fifty, and this year approximately eighty. Thus, by making a medical education possible we have tripled and quadrupled the number of Delaware residents who are seeking a career in medicine. Any bona fide Delaware resident can qualify for this DIMER program, regardless where he or she goes to college. The only inside track at the University of Delaware is that there are plans to have eventually a joint program between the University of Delaware and Jefferson in which students can progress from high school to the M.D. degree in six years. This program is still very much in the planning stages and in my opinion will probably not materialize for at least one year, and probably two or three years.

My Concepts

Ideas are like children in that everyone feels that his own are wonderful. Although these are simple, I hope that they are sound and if not wonderful, at least, workable.

First, I feel that we will succeed or fail as a total institution and not as individual groups or departments. Thus, anything which helps us to work together toward our common goal is good, but those things which divide us are destructive and bad. Thus, we must have firm overall policies which deal equally and fairly with all departments. We cannot have favorites. We cannot have secret deals or special considerations or exceptions. However, having laid down general policy guidelines and having hired good people to direct the educational program in each department, then we must let them do the job in their own way. When dealing with professional people *management is by objectives and not by directives.*

Another major concept is that those who teach must also practice. In my opinion, one of the major difficulties that we face as a profession today is the result of over two decades of teaching by men who have never practiced a day in their lives. Many of them have a very unrealistic and derogatory attitude toward the practicing physician, and, attitudes being contagious, these are passed on to the students. I feel that teaching is a privilege and a responsibility of *all physicians*, whether salaried or in practice. The members of our "educational staff" are paid to organize, manage, direct, evaluate, and administer the education program. They are not paid specifically to teach, although they all do so. They must have some practice in order to retain a sound understanding and sympathetic attitude toward other practicing physicians. In this way they will consciously or unconsciously direct their students toward a life of practice (and hopefully teaching). For our educational staff the proportion of their income derived from salary and the proportion from practice is divided according to how much time we hope the man will put in, in one activity or the other. If we want to buy 90% of a man's time, we give him almost entirely salary with a little practice increment. On the other hand, if practice is an important and integral part of what the man must teach, such as the Family Practice Program, then the proportion from salary and practice approaches a 50-50 ratio. In sensitive and highly competitive areas of practice some restrictions may have to be put on in order not to give the salaried man an unfair advantage. So far, I think that this is being worked out in an acceptable manner.

All over the country we hear of the "town-gown" problem and, indeed, it seems to be universal. I may be naive, but I do not think that this is really necessary. I feel that physicians as a group are of superior intelligence and sufficiently altruistic in their motivation that they should be able to work together toward common goals. I hope to be able to blur any dividing lines between "full time" and "practicing" physicians so that everyone will have difficulty telling who is "us" and who is them." Perhaps then with patience, understanding and forbearance we can lay to rest that "town-gown" monster and get on with our business of training young doctors for the better care of the people of this state.

As most of you know, we have in our staff organization a "Medical Education and House Staff Committee," which acts as an advisory group for the educational program and is my sounding board of staff opinion and feelings. Department heads and those concerned with education are automatically members of this committee, and I can see that over the next few years it will reach a point where it may be completely dominated by salaried doctors. Therefore, with their permission, I have gone to Staff Council and requested approval for the appointment of an Advisory Council to be made up of some of the most respected senior practicing physicians of our staff. Full time practice will be a prerequisite to membership on this Council. I hope to make this group a strong controlling force in our educational program, advising me on the creation of any new salaried positions, any new programs, the total number of full time staff, time and space allocations in our curriculum, and other similar matters which may be of interest and concern to our practicing physicians.

What to Do When Students Come

Our first contingent of Delaware students are sophomores at Jefferson now and will reach us for their third year in September, 1972. We have tried to foresee problems and to plan for them, and I hope that everything will run smoothly when they arrive. However, I know, deep down inside, that things will not run entirely smoothly and that there will be problems that we have not even thought of. There may very likely be a period of chaos and panic before everything settles down into a good reasonable pattern. I will be depending on everyone of you for support and help. I realize that this will take a great deal of work on the part of many of you. However, I really don't think it will be as bad as some of you fear. We have approximately ten Jefferson students here at all times now, and I think that very few of you have noticed any dislocations because of it. These students, so far, have been in Pediatrics, Neurology, Family Practice, Anesthesiology, Medicine, Hematology, and other areas. I have met these Delaware students of ours who will be coming here in September, and let me tell you, they are the greatest bunch of young people you ever laid eyes on. Two of them were down here for the summer last year, and they have taken back good reports about us to Jefferson and to the rest of the group. Thus, the group has heard good things and are really looking forward to joining us. As one of them said, they have "a very bad case of the 'hardly waits'." I anticipate that really our greatest problem with the students will be that you will like them too much and will be afraid of offending them. This is actually one of the greatest criticisms that medical students have of our staff. We realize how valuable these young people are, and we tend to handle them with kid gloves. Unfortunately, this does not tend to produce the greatest learning experience. These students are real thoroughbreds, and with a thoroughbred the more tough and demanding you are with him the greater he will produce. I feel that we must treat these students as though we were a good father to them. That is, we must be tough, critical, and demanding, but at the same time, let them know unmistakably that we hold them in real affection and are working hard with them for their ultimate good.

Many of us are not accustomed to thinking along educational lines, and I would encourage you to begin now to do so. You must try to think of specific educational objectives which you would have for them in your own field of practice. As you come in contact with these students, you must try to evaluate objectively their progress toward these goals. For example, you may decide that a third year student should not miss an enlarged spleen, mitral murmur, or hemiplegia, but a fourth year student should not miss a small femoral hernia, sentinel node, or an apical cavity. In questioning the students, try to avoid the type of question which says "What am I thinking?" I would urge you to evaluate them in writing as well as by spoken questions and answers. Whatever else you do, please read their history and physical examinations carefully and critically. You will find that some young men whom you think are doing just beautifully actually betray by a poorly written history and physical that they do not know what it is all about. Finally, if you have identified specific goals, do not keep them secret. Tell your students exactly what you expect of them. For example, you might tell them that by the end of your period of teaching you expect them to do a very competent history and physical, you expect them to know specific basics of the diseases under consideration, and most important of all you will be looking for the development of certain attitudes on their part, chiefly, conscientious concern and a feeling of responsibility for their patients.

A Medical School for Delaware?

Much has been said, both pro and con, regarding the possibilities of a medical school within the State of Delaware. My remarks represent only my own personal opinions and have no official weight whatsoever. However, on the basis of logic, they seem to me not unreasonable.

First, I feel that *eventually* Delaware will have a medical school. This seems a self-evident fact. However, the real question concerns "when." As I see it, there are three major factors involved. First, each partner of the DIMER Program receives something worthwhile that he values out of this arrangement. Jefferson achieves considerable financial help. It also achieves a major hospital affiliation, and finally, it acquires some competent faculty in Wilmington without any actual direct expense. The Wilmington Medical Center receives state funds to develop its educational program and hire faculty. It achieves the prestige of a major affiliation with a good medical school, which helps considerably in recruiting interns and residents. It achieves the intellectual stimulation of association with a quality academic program and, finally, achieves faculty appointments for many of the doctors on the staff. The University of Delaware receives some needed state funds and, in addition, a clinical orientation, which it has lacked in the past — an orientation toward human health problems rather than just biology, chemistry, psychology, and the other sciences basic to medicine. As long as each of these partners gets something out of this arrangement commensurate with what it puts in, the relationship will be stable. However, when for any one of these three institutions there develops a significant disproportion between what they give and what they receive, then there will be motivation for change.

Second, as everyone realizes, the development of a medical school is a very expensive undertaking. A brief review of the annual operating costs of the medical schools of this country show a low of around 3½ million dollars and a high of over 100 million dollars per year. We might be able to run a medical school for 3½ million per year, but probably 6-8 million would be more realistic. When the total input of funds from the University of Delaware, the Wilmington Medical Center, and the State Legislature, plus any Federal funds we might qualify for, when this gets within range of 6 million dollars per year, then there will be sentiment which says "we could do it cheaper ourselves," and there will be motivation for change. The real questionable period will be when our total investment is in the range of 3-4 million dollars a year, when there may be some doubt whether we could do it cheaper ourselves, especially if we could qualify for Federal help.

Third, I feel that the clinical years at Wilmington Medical Center are critical to the operation of a good medical school. Yet, at the present time, we have had no experience whatsoever in running the equivalent of a third and fourth year school. Most of our staff is somewhat uncertain and many are downright apprehensive about our ability to do this effectively. We need experience and know-how, and much depends on how rapidly we reach the point where we can teach students comfortably and well. Our first group of Delaware students will be juniors this year and seniors next year, graduating in June 1974. Therefore, I anticipate that it will be at least 1974, and probably later, before our staff will develop any very universal enthusiasm for this sort of project. That lies in the unknown future.

* * *

Deaths

WILLIAM MORRIS PIERSON, M.D.

Dr. William Morris Pierson, a native Wilmingtonian, died on May 10, 1972, after almost 50 years of practice in the city. Death was from complications from major vascular surgery; he was age 74 at death.

Dr. Pierson graduated from the University of Delaware, then received his medical degree from Hahnemann Medical College in 1921, and returned to Wilmington soon afterward to practice ophthalmology and otolaryngology. He was chief of this service at the Memorial Division from 1924 until 1967.

He was a member of the New Castle County Medical Society, the Medical Society of Delaware, the American Medical Association, American Broncho-Esophagological Society, American Academy of Ophthalmology-Otolaryngology, American College of Chest Physicians, and the Philadelphia Laryngological Society. He was also a member of the Wilmington Country Club, Seaview Country Club, Temple Lodge 11, AF & M, and the Westminster Presbyterian Church. He was also a Past President and a founder of the Delaware Academy of Medicine.

Dr. Pierson was a noted local athlete. His particular interest was baseball. He played catcher on local teams and taught baseball as an instructor. He also was a basketball player at Delaware. In later years he was a golfer. He was also one of a very exclusive group: a racing enthusiast who never bet.

Dr. Pierson is survived by three sons, William M. Jr., of Rochester, New York; Matthew F., of St. Michael's, Maryland and Frederick B., of Placerville, California; a daughter, Mrs. Ann Louise Scott of Salem, Massachusetts; three brothers, Charles N., of Wilmington; Dr. John C., of Westover Hills, and Frank F., Jr., of Ormond Beach, Florida; three sisters, Mrs. Donald G. Clark and Miss Margaret C. Pierson and Mrs. Bayard W. Allmond and twelve grandchildren of Wilmington.

C. GREYLOCK NOBLE, M.D.

Dr. C. Greylock Noble died in Croton-on-Hudson, New York, on March 25, 1972, at age 84. His death resulted from chronic renal failure. Dr. Noble was a general practitioner in Greenwood, Delaware, from 1948 until 1969. Since his retirement he had been living in New York State.

Between 1923 and 1948 he was in general practice in Long Island City and Flushing, New York. Prior to 1923, Dr. Noble was with the Veteran's Administration Hospital in Dayton, Ohio.

Dr. Noble was a native of Cheshire, Massachusetts. He took his undergraduate and medical training at the University of Pennsylvania, receiving his M.D. in 1910. He interned at Blockley, Bellevue, and the Lying-in Hospital, New York.

Dr. Noble was a member of the Sussex

County Medical Society, the Medical Society of Delaware, the New York State Medical Society, and the American Medical Association. Dr. Noble is survived by his widow, Alice; two sons, Raymond H. of Connecticut and Charles G., Jr. of Long Island, New York; two daughters, Mrs. Ruth Penfold of California and Mrs. Nancy McNeill of Connecticut; seven grandchildren and one great-grandchild.

C. ANTHONY D'ALONZO, M.D.

Dr. C. Anthony D'Alonzo, died on July 22, 1972 at the age of 59 following a short illness. Dr. D'Alonzo had been with the duPont Company since 1939 and director of its Medical Division since 1956.

Dr. D'Alonzo received his undergraduate and medical degrees from the University of Virginia, and was a member of the University of Virginia Medical School Advisory Committee. After he started with the duPont Company he served as a flight surgeon in the US Army Air Corps, and later as section chief at Fort Bragg, North Carolina, Regional Army Hospital. He returned from the service to the duPont Company in Wilmington in 1945.

Dr. D'Alonzo became one of the outstanding medical men associated with industry. He was a diplomat of the American Board of Internal Medicine, a fellow of the American College of Physicians and the American Academy of Occupational Medicine, a member of the Industrial Medical Association, the American Medical Association and of the Medical Society of Delaware and the New Castle County Medical Society. He had been a director of the Industrial Medical Association and President of the Delaware Medical Association and had held several other medical directorships. At death he was chief of Occupational Medicine of the Wilmington Medical Center and of the Medical Section of Industrial Medicine at St. Francis Hospital.

He was a pioneer in industrial medicine and authored and co-authored numerous articles or books on the subject. He was one of the early investigators of the problem of alcoholism in industry. His hobbies were those interests which were part of his profession, and he actually never had time for a vacation.

Dr. D'Alonzo is survived by his wife, the former Shirley Bryant of Wilmington; three sons, William and Dr. Richard D'Alonzo of Wilmington, and Thomas of Chantilly, Virginia; four daughters, Mrs. Lois Ann Karlsen and Misses Deborah, Susan Jane and Ann of Wilmington; three sisters, Mrs. Mamie D'Lorenzo and Mrs. Adeline DeFrancis of Wilmington, and Mrs. Theresa Strazzella of Hanover, Pennsylvania; and four grandchildren.

* * *

PERSONAL CREED

"Many times a day I realize how much my own outer and inner life is built upon the labors of my fellow men, both living and dead, and how earnestly I must exert myself in order to give in return as much as I have received. My peace of mind is often troubled by the depressing sense that I have borrowed too heavily from the work of other men."

Albert Einstein

Editorials

THE ROLE OF THE PHYSICIAN IN POLLUTION CONTROL

The First World Environmental Quality Index, an informal report of the United Nations Conference on the Human Environment, has just been released. This report is global in scope and sounds a loud alarm to all mankind that either we correct our problems now or the human race may cease to exist in ten generations.

Much has been written in the past twenty years of the pollution of our air, water, soil, etc. This plethora of factual material has had very little impact on the man in the street. Great goals have been proposed by state and national governments to overcome the already extensive contamination of our environments. Numerous laws and regulations have been legislated, but somehow nothing has been really accomplished.

Historically the medical profession should be one of the leaders in fostering vastly improved health and living conditions for all people. Collectively and individually we of the medical profession are failing our fellow men by ignorance and lethargy. It is indeed high time that the physician accept the challenge that has been given by society, and by example and communication we should strongly support our civic leaders with the full strength of our collective medical societies.

Each of us must guard against personal pollution. This is so essential because each of us is in a position to greatly influence others, especially the young people. Each physician must measure himself as to his intellectual honesty, personal morality, respect for patient and colleague as individuals, and respect for the great profession of which he is a member. The time is now to put away petty personal gains and desires. The very human race is at stake. It is indeed difficult not to become a prophet of doom, but from the historical viewpoint, it is not hard to remember that the medical profession has faced other seemingly hopeless problems and overcome them with honor.

One of the strongest forces in favor of cleaning up the environment is public opinion and public pressure. The medical profession should be actively engaged in keeping public concern and awareness stimulated and seeing that the public is better informed and educated about what can be done to solve our environmental problems.

The following is a quotation from an article in *National Wild Life*, February 1972, page 15. "Remember that air and water pollution laws also provide that you as a citizen can bring a lawsuit against a polluter, or the Environmental Protection Agency itself when it can be shown the government has not acted to enforce its own regulations." With this as a guide, all of us as physicians should try to keep abreast of environmental legislation and give our advice and support to its enforcement.

A.C.W.

"IT'S INCONCEIVABLE TO DIE . . ."

When Dr. Elizabeth Kubler-Ross, who has made death her specialty, first became interested in the subject she was told by her colleagues that actually there were no dying patients in the hospital for her to talk to. Dr. Kubler-Ross persisted, found more than one, and has continued to explain dying patients to their doctors and doctors to themselves. This excerpt below is from her book, *On Death and Dying.*

> "It is inconceivable for our unconscious to imagine an actual ending of our own life here on earth, and if this life of ours has to end, the ending is always attributed to a malicious intervention from the outside by someone else. In simple terms, in our unconscious mind we can only be killed; it is inconceivable to die of a natural cause or of old age. Therefore death is associated with a bad act, a frightening happening, something that calls for retribution and punishment.
>
> "One is wise to remember these fundamental facts as they are essential in understanding some of the most important, otherwise unintelligible communications of our patients."

Peter Lundin, a recent graduate of Downstate Medical Center in New York and presently an intern at Kings County, has been on chronic hemodialysis for the past year. His statement when asked recently how he feels about his own prognosis is particularly illuminating when read in sequence with Dr. Kubler-Ross's above remarks. Says Dr. Lundin, "I don't anticipate; it gives you weak knees."

B.Z.P.

THE FOOLISH FORTIES

Male type baldness often begins with recession of hair on either side of the midline, a trait the Japanese call "the horns of wisdom." Though wisdom sometimes comes with aging, the passage of the years can lead to some physical and emotional problems. Middle-age can herald a vague discontent with job, family, and spouse.

The primary stage of the syndrome often begins with the acquisition of a convertible automobile (whereas a sedan was the prior preference). The secondary stage emerges with the acquisition of a hair-piece or a surreptitious hair transplant. The tertiary (malignant) phase often begins with the separation and divorce and ends with the realization that "one should not put new wine into old wine-skins." It has long been recognized that the "affair" will occur at this age, if it is going to occur (the oft-quoted sad joke of exchanging a 40 for two 20's). The spouse is often blamed for a decline in libido or a period of impotence. Hostility towards the company or employer with a precipitous job change is a similar phenomenon.

Gastrointestinal symptoms are common, leading to diagnosis of irritable colon or gastritis. Frequently, there are shifting complaints of chest pain, headache, dizziness, weakness, and paresthesiae. Gastroenterologists, cardiologists, and neurologists frequently see these patients for puzzling complaints. Of all these symptoms, insomnia, decline in libido, headache, and neuresthenia are the most common and are the hallmarks of an endogenous depression. Males and females are similarly affected, though complaints differ slightly. Because there are seldom adequate "logical" reasons for feeling sad or blue, patients of this type will often somatize their complaints.

The Freudian explanation for depression is hostility, but the greater number of the depressions described here are age-related or have a strong family history. The basic etiology doubtless lies in norepinephrine, dopamine, or serotonin deficiencies in the limbic lobe, hypothalamus, or reticular substance. There is an imbalance of cholinergic and adrenergic activity of these parts, with the cholinergic functions predominating.

Confusion of this illness with anxiety frequently leads physicians to use unwisely sedatives or tranquilizers, which will help for only a week; then the depression deepens, with more severe physical symptoms. Many patients can be managed by reassurance and counseling, particularly when they realize the lack of danger of some threatening organic illness, and when they know the cycle will finally terminate. The recommended combination of a tranquilizer with a tricyclic compound such as imipramine (Tofranil-*Geigy*) or amitriptyline (Elavil-*Merck Sharp & Dohme*) will produce some drowsiness or "obtunded" state for the first seven days, but by the tenth to the fourteenth day, there will be a remarkable recurrence of energy, a disappearance of symptoms, and return of "joie de vivre." The anti-depressant medications are truly a miracle in our age and have led to the most grateful patients in all of medicine. Some patients who do not respond to the anti-depressant medications may need electro-shock therapy.

Patients who are naturally patient with themselves usually weather the storm of the 40's without making foolish changes and mistakes, as regard family and job, because these depressions are cyclical and will finally end even without therapy. Most patients are not patient and require the guidance of a physician to help them through the troubled waters. Because this illness is so common, there are not nearly enough psychiatrists to diagnose and manage these patients. Most of them must be treated by the family physician or specialists other than psychiatrists—hence, the necessity for recognizing the reason behind "the foolish forties."

D.A.N.

President's Page

LEGAL AID: A MEANS OF REDUCING LIABILITY RATES?

The President's Page this month was written by Martin Gibbs, M.D., Chairman of the Medico-Legal Affairs Committee of the Medical Society of Delaware.

Many have noted the effect of contingency fees on malpractice suits. The fee can serve as an inducement to sue the physician. With the attention being devoted to liability insurance rates and their escalating effect upon the total cost of health care, I would like to challenge the need for contingency fees at all.

The contingency fee is "the poor man's key to the court house" — or so the plaintiff's bar contends. But if there were adequate Legal Aid, the poor man would have his key to the court house without the attorney's need for a contingency fee and without the court's inflation of the award to accommodate the contingency fee. Cases would be taken upon merit, and justice for the poor would be provided also for those whose awards are too small to be tempting. The smaller claim, important to the plaintiff but uninteresting to the attorney, would also have its day in court. But the essential ingredient is adequate *Legal Aid.*

Legal Aid is the counterpart of medical care to the medically indigent. I practiced many years among the medically indigent, *exclusively* among the medically indigent, before Medicare and Medicaid, and I know how well our profession has taken care of the medical needs of the poor. Despite emotional contentions to the contrary, at least in the portions of the medical world in which I have been privileged to function, no necessity in the life of the poor was as well provided for as was doctor's care. They could not go to a grocery store when they were hungry. They could not go to a shoe store because they were barefoot. They could not claim a roof for want of shelter. They could not get legal help for their social problems. But I took care of them; my friends took care of them; and that pattern of care was part of a heritage of which we should all be more conscious.

Now it would seem that a similar provision for the legal needs of the indigent is necessary. It is necessary for many reasons. One of those reasons would be as part of the solution to a crisis in the delivery of health care to the people of this country, the misnamed but so-called "Malpractice Problem."

This is an opportunity for the lawyers to express their dedication to the commonweal. The example of medicine might serve them well.

H. M. Baganz

Delaware Academy of Family Physicians

PRIMARY CARE

There is a ferment in our community in an effort to solve the deficit of primary care.

The hospital out-patient clinics have been up-graded toward making them more personal and more responsive to patient needs. Doctors for Emergency Services have taken on a tremendous load of non-emergency patients in the emergency departments of the Wilmington Medical Center. They have been doing a difficult job and doing it well. This would be a good partial solution to the primary care deficit except that it is episodic without adequate follow-up and it is expensive (a minimum of eighteen dollars per patient visit).

SMAC, the Southbridge Medical Activities Center, and the Northeast Center are both neighborhood health centers where primary care is rendered by dedicated, non-paid, private practice physicians, each of whom spends a small part of his time there. SMAC's physicians are internists and other specialists; Northeast's are general practitioners. Besides the part-time volunteer physicians, each is staffed by nurses and other aides. A fee is charged to those able to pay. Financial backup is provided to SMAC by a private foundation, and Northeast's operations are in a health center building operated by the State. Each has the drawbacks that it supplies medical service only part-time and the true cost of care is far more expensive than similar care in a local physician's office.

The duPont Company and Blue Cross-Blue Shield of Delaware have teamed up to provide financial backing for a one-year (or more) pilot project in health care. They have already started operations in the former office of Dr. Leon Anderson at Fifth and Pine Streets. Aides are present full-time and an internist-hematologist who just finished a tour of duty at our Veteran's Administration Hospital is providing primary care there twenty-two hours a week. He will see patients on a fee-for-service basis; he will treat all comers regardless of ability to pay; his minimum income will be guaranteed by duPont Company and Blue Cross-Blue Shield. These two organizations are to be commended for this innovative effort.

Model Cities has just started activities at its health center at Tenth and Madison Streets. This will be staffed by nurses and other health aides, and primary medical care will be furnished by a pediatrician on the salaried staff of the State Board of Health. The entire project is backed by federal grants.

The Visiting Nurses Association of Wilmington proposes to establish an adult health center at the Peoples Settlement at Eighth and Lombard Streets. Here preventive health services will be provided by a registered nurse and primary care by a part-time, salaried physician.

The De La Warr Community has a far more ambitious plan. It proposes to set up a De La Warr Primary Health Care Corporation and operate a health center in the former Oakmont Shopping Center, which it suggests New Castle County should refurbish and equip, then rent to it for one dollar a year. The Corporation will seek funds from federal grants and other sources, then contract with " . . . the Wilmington Medical Center for management, recruitment of personnel, purchasing, maintenance of fiscal records, supply of paramedical and secretarial personnel. . . . The corporation . . . will contract for physician services with a group of physicians such as the New Castle County Medical Society, the Medical Society of Delaware, or other groups."

Although De La Warr is the first, other suburban communities in our area are also asserting the need for their own area primary health centers. Belvedere is vocal about this.

There are potential problems, not insurmountable, with this health center approach to provision of primary care. One is the fear that services might become fragmented and impersonal. Certainly they are costly. In the *New England Journal of Medicine* of June 8, 1972, Sparer and Anderson write on "The Cost of Services at Neighborhood Health Centers." Their two-year study of O.E.O. neighborhood health centers of varying sizes revealed the cost of a "physician-patient encounter" to vary from $16.09 to $28.38. This contrasts to the usual fee for a patient visit in our community of about $7.00.

The physicians who deliver medical care here are aware of the problems. Through the New Castle County Medical Society they will attempt to supply rational guidance. The County Society has established a "Task Force for Evaluation of Delivery of Ambulatory Medical Care," which is now in process of evaluating the various proposals.

What is acknowledged is that there is a deficit of primary care. The approved and functioning family practice residency program of the Wilmington Medical Center had one resident last year, now has four, and gives good promise for the future.

If someday we have a large increase in the number of family practitioners and other primary care physicians, the problem will be solved. Until such time, we must give reasoned support to all the innovative proposals detailed above and to the Delaware Foundation for Medical Care's proposal which attempts to make maximum use of existing physicians by coordinated effort and group use of ancillary personnel.

DAVID PLATT, M.D.

* * *

"I don't see any parade."

In Brief

In the News

Charles M. Bancroft, M.D., Wilmington, and *Christopher R. Donoho, M.D.*, Newark, have been elected Vice President and Secretary, respectively, of the Mid-Atlantic Region of the American Association for Clinical Immunology and Allergy.

Andrew M. Gehret, M.D., has retired from the Delaware State Board of Medical Examiners and the Medical Council of Delaware after fifteen years on the Board and nine years as Secretary of the Council. *William J. Holloway, M.D.*, is the new President-Secretary of the State Board of Medical Examiners and Vice-President of the Medical Council of Delaware. *Wallace M. Johnson, M.D.*, becomes Secretary of the Medical Council after vacating the Vice-Presidency spot. John E. Benzel, M.D., has been appointed by Governor Russell Peterson to fill the vacancy left on the Board of Medical Examiners by Dr. Gehret's retirement.

Christopher R. Donoho, Jr., M.D., has been awarded a grant of $3500 by the Delaware Chapter of the Arthritis Foundation to apply toward a year's study with Nathan Smuckler, M.D., Director of the Department of Rheumatology at Jefferson Medical College. The first recipient of the fellowship in rheumatology was *Russell Labowitz, M.D.*, who has returned to private practice in Wilmington and is now the voluntary chairman of the Medical Advisory Committee of the Delaware Chapter of the Arthritis Foundation succeeding *William T. Hall, M.D.*

R. Douglas Sanders, M.D., took first place in the watercolor category of the Annual Physicians' Art Exhibit of the American Society of Anesthesiologists.

The Delaware Chapter of the American Academy of Pediatrics is a co-recipient (with New York Chapter 1) of the parent body's major prize for community involvement. *Marjorie J. McKusick, M.D.*, is the Chairman of the Delaware Chapter, which was cited for its work with the Delaware Adolescent Program, Inc. (DAPI), the weekly series of articles in the *Evening Journal* entitled "Dr. Kid's Stuff," and "for maximum participation" of its 62 members in various child health matters. The prize consists of $1250 and a commemorative plaque, which will be awarded at the national meeting of the American Academy of Pediatrics in New York City, October 14-19.

James P. Tyler, Director of Finance, and *H. Richard Pearce*, Controller, both of the Wilmington Medical Center, have been accredited as Fellows of the Hospital Financial Management Association, Delaware's first. The Fellowship Examination is provided by the HFMA to its Advanced Members as a means to prove the individual member's professional knowledge and technical competence in the financial field specifically as it relates to health care institutions. The total number of Fellows is 172.

Speakers on "Ask the Doctor"

Speakers for October 1972 on the Tuesday radio program (11:05 a.m., WDEL) produced by the Medical Society of Delaware are: October 3, E. Wayne Martz, M.D., *Medical Education;* October 10, Ronald Corbalis, M.D., *Care in the Hospital Emergency Room;* October 17, Lawrence Katzenstein, M.D., *Fungus Infections;* October 24, David King, M.D., *Cerebral Palsy;* October 31, Martin Gibbs, M.D., *Brain Tumors.*

AMA Physicians' Recognition Award

Delaware physicians who received the 1971 AMA Physicians' Recognition Award are James P. Aikins, M.D., George A. Barbalias, M.D., R. Castro de la Cotera, M.D., Martin Gibbs, M.D., Ananth P. Nabha, M.D., Antonio Narvaez, M.D., and Sarah Lou Wells, M.D., all of Wilmington; Aydin Z. Bill, M.D. and Urmila N. Gujrathi, M.D., of New Castle; Robert C. Donlick, D.O., of Clayton; David A. Ingis, M.D., of Dover Air Force Base; and C. F. Gutierrez, M.D., formerly at the Delaware Home and Hospital, Smyrna.

CLINICAL NOTICES AND MEETINGS

AES Course and Meeting

A continuation course on "Clinical Electroencephalography" will be held October 9-11, 1972 at the Shamrock Hilton Hotel in Houston, Texas. For further information contact: Dr. Donald W. Klass, EEG Course Director, Mayo Clinic, Rochester, Minnesota, 55901.

The American Electroencephalographic Society will hold its 26th Annual Meeting at the Shamrock Hilton Hotel in Houston, Texas from October 12 through 14, 1972. For additional information, contact: Mrs. Margaret H. Henry, Executive Secretary, American Electroencephalographic Society, 36391 Maple Grove Road, Willoughby Hills, Ohio, 44094.

Pediatric Allergy

The New Jersey Allergy Society in cooperation with The New Jersey Chapter of the Academy of Family Physicians, The New Jersey Chapter of the Academy of Pediatrics, and the New Jersey Academy of Medicine announces a course titled "Practical Management of the Child with Chronic Respiratory Allergy." The course will be given in two different places, on two different dates: Thursday, October 5, 1972 at Helen Fuld Hospital, Trenton, and Wednesday, October 25, 1972 at Holy Name Hospital, Teaneck. Those interested in the course, please mail a $10.00 check, made out to The New Jersey Allergy Society, to: Michael Mattikow, M.D., 330 Raizer Road, Wayne, N. J., 07470.

Otolaryngologic Assembly

The Annual Otolaryngologic Assembly of 1972 will be held October 14 through 20, 1972, in the Eye and Ear Infirmary of the University of Illinois Hospital. The course, a condensed basic and clinical program for practicing otolaryngologists, is under the direction of Emanual M. Skolnik, M.D. For additional information write to Otolaryngology, P. O. Box 6998, Chicago, Ill., 60680.

Environmental Symposium

A Symposium on Environmental Quality and Food Supply will be held October 18-20, 1972 at the Shoreham Hotel, Washington, D.C. Contact the Council on Foods and Nutrition, American Medical Association, 535 N. Dearborn St., Chicago, 60610, for information.

Delaware Diabetes Association

George F. Cahill, Jr., M.D., Professor of Medicine, Harvard University Medical School, and Director of the Elliott P. Joslin Research Laboratory Diabetes Foundation, Inc. will speak at the Tuesday morning Medical Conference at the Delaware Academy of Medicine, 8:30 a.m., October 24, on "Diabetic Acidosis and Hyperosmolar Coma". A public meeting at noon on the same day at the Delaware Academy will feature Doctor Cahill speaking on "Current Developments in Diabetic Research". Admission is free.

SAMS

The Society for Advanced Medical Systems will hold its Fourth Annual Meeting on "Problem-Directed and Medical Information Systems" on October 29-November 1, 1972 at the Marriott Hotel, Saddle Brook, New Jersey. Contact: Society for Advanced Medical Systems, Suite N-300, 3900 Wisconsin Ave., N. W., Washington, D. C., 20016, telephone (202) 244-3863, for registration data.

Leukemia Grants

Investigators interested in pursuing careers in the field of leukemia research may apply now to the Leukemia Society of America, Inc. for financial grants to support their future work. Deadline for application is November 1, 1972. Approved grants will become effective as of July 1, 1973. The Society offers three types of funding to individual investigators: Scholarships, Special Fellowships and Fellowships. Application forms may be obtained by writing to the Vice President for Medical and Scientific Affairs, National Headquarters, Leukemia Society of America, Inc., 211 East 43rd St., New York, N. Y., 10017. Dr. John C. Wriston, Professor of Biochemistry, University of Delaware, was awarded a $16,000 grant by the Leukemia Society of America in July.

Cardiac Conference

The 19th Western Cardiac Conference will be held at the University of Colorado Medical Center, Denver on November 3 & 4, 1972. The theme will be "Cardiology for the Primary Physician". For further information write: Colorado Heart Association, 1375 Delaware Street, Denver, Colorado, 80204.

ACP Regional Meeting

Three-State Regional Meeting (Del., D.C., Md.), of the American College of Physicians will be held November 4, 1972 at Howard University, Washington, D.C. For information contact: Henry C. Ecker, M.D., 916 19th Street, N.W., Washington, D. C., 20006.

ACEP Scientific Assembly

The Fourth Annual ACEP Scientific Assembly will be held at the Hilton Hotel in San Francisco, November 8-10, 1972. For further information contact: Richard T. Johnson, Managing Editor, American College of Emergency Physicians, 241 East Saginaw, East Lansing, Mich., 48823. Phone (517) 332-0838.

Occupational Health Nursing Course

A full-time, five-day course in occupational health for professional registered nurses in industry will be offered Monday, November 13, 1972 by the Department of Environmental Medicine of New York University School of Medicine, in cooperation with the American Association of Industrial Nurses. The course is limited to nurses with experience of five years or less in occupational health. Tuition will be $175. Course #484. For additional information contact: Office of the Recorder, Room 156 MSB, New York University Post-Graduate Medical School, 550 First Ave., New York, N. Y., 10016.

Surgical Congress

The International College of Surgeons, 5th Western Hemisphere Congress, will be held November 12-16, 1972 in San Diego, California. Write to: 5th Western Hemisphere Congress, 136 N. Brighton St., Burbank, California, 91506, for information.

1973 PG Course

The Maternal and Child Health Program of the University of California announces postgraduate courses of instruction for pediatricians, obstetricians, and other physicians interested in receiving training in the field of Maternal and Child Health. These programs all lead to the degree of Master of Public Health. Tax-exempt fellowships are available, consisting of support for the trainee and his dependents, tuition, and fees. Applications are now being accepted for the group entering September, 1973. For information, write to Helen M. Wallace, M.D., School of Public Health, University of California, Berkeley, California, 94720.

* * *

WHO NEEDS A P.E.?

In a nutshell, our opinion is that it is more advisable to pass a careful physical examination if one intends to be sedentary — in order to establish whether one's health is good enough to stand the inactivity.

Samuel M. Fox, III, M.D., Medical Opinion and Review, January 1972.

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Delaware Medical Journal

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THE CORRELATION OF ABNORMAL URINALYSIS, URINARY SYMPTOMS, AND BACTERIA IN PREGNANT WOMEN

Bernadine Z. Paulshock, M.D.
Rosemary Rocco, B.S.
Janet L. Clark, Ph.D.

Asymptomatic or occult bacteriuria in pregnant women is associated with acute pyelonephritis and prematurity,[1-3] and numerous studies have shown that pregnant women have an increased incidence of bacteriuria.[1,4-8] We recently studied prenatal patients at the Wilmington Medical Center to evaluate the following points:

1. The incidence of bacteriuria as determined by culture utilizing a mini-agar plate.
2. Correlation of urine abnormalities (pyuria and proteinuria) with positive cultures.
3. Correlation of symptoms of urinary tract disease (dysuria, nocturia) or a previous urinary infection with a positive culture.

Methods

Women attending the prenatal Outpatient Department were questioned regarding symptoms of dysuria, nocturia, frequency, and past history of infection of the urinary tract. These patients were instructed in the collection of a clean-catch urine specimen which was analyzed for leukocytes by microscopic examination and for the presence of proteinuria by the Labstix* method, and was cultured using Quanti-Kit** (a miniature agar spoon previously reported to be reliable in detecting significant bacteriuria).[7,8]

Results

1. Eighty patients were examined (Table 1). Fifteen specimens had significant bacteriuria ($>10^5$ organisms/ml) for an overall incidence of 19 percent. Ten of the 15 positive specimens yielded pure cultures of gram negative

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This paper was originally presented as part of the Continuing Medical Education Seminars for Physicians, sponsored by the Delaware Institute of Medical Education and Research, the University of Delaware, and the Medical Society of Delaware.

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*Labstix, Ames Company
**Quanti-Kit, United Medical Laboratories, Inc., Oregon

TABLE 1

SUMMARY OF RESULTS OF SCREENING URINES FROM OBSTETRICAL PATIENTS

	Number	Percent
Positive cultures ($>10^5$/ml)	15/80	19
Gram negative organisms (8 *E. Coli*, 2 *Proteus*)	10/15	
Mixed contaminants	5/15	
Doubtful cultures (10^4-10^5)	16/80	20
Gram negative (1 *E. Coli*, 1 *Proteus*)	2/16	
Mixed contaminants	14/16	
Pyuria (>4 WBC/HPF)	23/80	29
With positive culture	7/23	
Proteinuria	3/80	4
With positive culture	1/3	

bacilli while the remaining five positive cultures revealed a mixture of gram positive organisms presumed to be contaminants. In another 16 of the 80 patients, urine cultures were obtained with colony counts ranging from 10^4 to 10^5; in only two of these instances were pure cultures of gram negative bacilli obtained. Cultures with less than 10^4 organisms/ml were obtained in 49 of 80 patients (61 percent).

Neither the age, duration of pregnancy nor gravidity of the patients correlated with the likelihood of bacteriuria although the small number of women studied precludes application of statistical techniques to these data. 2. Pyuria occurred in 23 of 80 patients (29 percent) but was associated with gram negative bacteriuria in only seven instances. Proteinuria was less frequent, being detected in only three of 80 women, and in only one case was bacteriuria a concomitant finding. 3. Dysuria was present in 33 percent of patients with gram negative bacteriuria, 11 percent of those with gram positive bacteriuria, and only eight percent of cases with negative cultures. Diurnal and nocturnal frequency was noted by all but eight of the women interviewed. A past history of urinary tract infection was reported by 70 percent of the patients with an increase in gram negative organisms, 16 percent with an increase in gram positive organisms, and 29 percent of those with negative cultures.

Conclusions

1. Clean-catch specimens, always difficult to obtain, are even less reliable in pregnant women. In this study, a high contamination rate is suggested by the number of cultures (24 percent), revealing $>10^4$ organisms/ml of mixed gram positive flora and by the fact that only 45 percent of our population produced specimens with no growth. It must be recognized that a pure culture of gram negative organisms may also represent contamination rather than infection; ideally, a second positive culture is necessary for confirmation of infection.

2. Abnormalities in the urinalysis do not differentiate between infected and non-infected women. Neither do symptoms; increased frequency and nocturia were reported by 90 percent. Only one-third of the women with significant bacteriuria reported dysuria, and this symptom was present in eight percent of those without bacteriuria.

3. Cultures showing significant numbers of gram negative organisms were obtained with enough frequency (15 percent) in pregnant women that a culture should be included among the routine studies of all prenatal registrants. Mini-culture techniques, such as the one we have used, can greatly decrease the cost of urine culture. The high incidence of positive cultures in pregnant women with a past history of infection should make culture

mandatory in this group, even if not routinely performed in all pregnant women.

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Quanti-Kits were supplied by United Medical Laboratories.

* * *

THE PROBLEM-ORIENTED MEDICAL RECORD, PATIENT CARE, AND MEDICAL EDUCATION

• The problem-oriented medical record provides a systematic method of recording medical information and action. This paper reviews the structure of the problem-oriented medical record and some of its implications for medical practice and medical education.

George E. Nelson, M.D.

Introduction

Within the past year, concern over the medical record has been rapidly escalating, as reflected by the numbers of articles published in the medical literature. Multiple authors have attempted to assess qualitative medical care through study of the process of care and the outcome of care. Oftentimes, the medical record itself has been found to be an inadequate source for such a study. To quote Hurst, "Excellence in sports, art, science or medicine cannot be pursued, achieved or measured,"[1] and the medical record, in most institutions, does not reflect any rules.

The logic of the physician has not been preserved by the record; all the data relevant to a single problem are not retrievable by a single number and title, but rather the auditor must sift through the record and correlate the data according to his view — out-of-context with the realities of the patient's problems and after the fact. Were only the medical record committee so affected, our concern

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might not be so great. But much more serious is the fact that covering physicians, nurses and others in the health care team, as well as the physician himself at another date, must also search through the record in an effort to identify all the problems or "get a feel for the case." The result of this inefficient effort is all too clear for those who wish to look. Problems are not identified and are overlooked or forgotten, and thus new problems are often dealt with out-of-context. The nurses often do not know what the patient's problems are or why they are giving specific medications. The attending physician himself, if pressed, cannot follow the course of a patient's problems within his own records, as he discusses rales, milk of magnesia, and barium enemas within the same note. In all the confusion it's not surprising that bad care results.

To some it might appear that our goal is the "perfect record" as distinct from perfect patient care. The statement is often heard that "Concern over the record has become a cult for the formulation of charts to the detriment of actually practicing medicine. The record is, after all, only a record of practice, not the practice itself." But as Graves has written, "It must be pointed out that in the case of medicine, the word 'record' is misleading; it is not a distinct, separate, precise picture of the reality, medicine. The record is an integral part of that reality which shapes as it is shaped. It is a tool, the school of thought by which the physician intervenes in the natural history of events. A tool is not a record of reality, it is the handle the practitioner has on reality. . . ."[2] The importance of the medical record is that it determines the very nature of medicine. If one accepts this premise, it is difficult to see how a record without rules or logical structure could reflect orderly or scientific medical care. And yet we often hear and read that "Daily observations show that outstanding clinicians may keep inadequate records." In answer to this statement, one can only wonder how unrecorded (or poorly recorded) deeds can support such a claim. At the same time, it must be agreed that profuse writing does not indicate competence — in fact it often suggests the reverse! Simply stated, it is hard to see how sloppy records can reflect anything other than sloppy medical care.

One answer to the problem of the medical record shambles is the problem-oriented medical record (POMR).[3] The basic premise of the POMR is that after the initial date base, a list of problems should be formulated and the remainder of the notes of the record should be identified by the problem number and title. The establishment of a data base and the formulation of the abnormalities in the data base into a list of problems constitute the first two phases of medical action. The other two phases are the development of plans for each problem and the follow-up, or progress of each problem. These phases represent an attempt to bring ordinary techniques of science to the patient's bedside as the first step in the provision of good quality medical care.

Data Base

The essential feature of the data base is that it must be defined; the size of the data base is arbitrary. It would be impossible for me to define the content of an ideal data base, though it is obvious that the size of the problem list is directly related to the size of the data base. At the present time, each physician or a group of physicians must decide what the data base should be. A good point to start from might be to consider what problems exist within the doctor's patient population that he cannot afford to miss, and set up the data base to detect those problems. Time and careful follow-up will tell him if his data base is dangerously small or wastefully large.

Once the data base has been defined, it should not be abbreviated or altered under the pressure of numbers of patients or individual fatigue. To do so would seriously compromise the ability of the physician to learn from past routines in an attempt to improve future practices. The use of paramedical personnel and other techniques has been successfully tried by an increasing number of practitioners. Cross and Bjorn have documented their experience in a book entitled *Problem Oriented Practice*.[4]

Problem Formulation

The accurate and complete formulation of problems from the data base can be a difficult task. The difficulty lies not so much in the enumeration of abnormalities, but rather in the tendency of many to either understate or overstate the problem, or to list each separate manifestation of a disease as a separate problem, or lump them inappropriately as a single problem. A poorly formulated problem list can lead to unnecessary or inefficient planning, or can be dangerously misleading if the problems are mis-stated. The simple requirement that problems are always to be listed in a way that the data in the record supports is a useful rule. However, if the beginner errs and lists multiple individual manifestations of a single entity as separate problems, nothing is lost, for he provides the experienced teacher with a good point to begin his instruction, which may result in, among other things, an updated problem list.

All problems should be identified, regardless of the interests of the physician, including the social and psychiatric, since problems in these latter areas often have the most significant influence on the overall health of the patient.

Problems may of necessity be stated as a symptom, physical finding, or laboratory abnormality, but whenever reasonable should be updated to reflect the underlying pathophysiologic abnormality or primary cause. It is important to indicate the date that a problem changes status on the problems list, since this facilitates retrieval of the supporting progress note. Occasionally, a single diagnostic entity may have multiple pathophysiologic manifestations, some of which may require individual management. These related manifestations should then be listed as separate problems, and the relationship with the basic diagnostic entity can be indicated by the phrase "due to" or "secondary to" problem #1 (or whatever).

Inactive or resolved problems are always listed so that important past health events will not be ignored or lost sight of as current problems are being dealt with.

Initial Planning

As the form of the record has become clearer at our own institution, it has become increasingly evident to us that the course of an entire illness too often goes astray because of an inadequate initial plan. Frequently multiple diagnostic and therapeutic misadventures are embarked upon without any spelled-out goals, priorities or contingency plans, thus creating chaos as the physician or student ricochets from one unanticipated result to another. This situation is analagous to what happens when the architect shows up with the plans after the contractor has laid the plumbing — with the bathroom fixtures coming up in the fireplace!

A good initial plan consists of three major parts: plans for more information for diagnosis and/or follow-up; plans for therapy; plans for patient education. Before any detailed plan is instituted, it is desirable for clear-cut goals, both diagnostic and therapeutic, to be defined by those responsible for the patient. This is especially important in the face of multiple interacting problems, one or more of which may be chronic.

The diagnostic plan contains the differential diagnosis for the problem, the Rule/Out List. These should be listed in the order with which they are to be approached, and the specific procedures planned to R/O each item should be attached to it.

The therapeutic plan should similarly be spelled out in detail as to the drug and precise dosage schedule and how the effectiveness of the therapy is to be measured. Plans for detecting adverse effects should also be recorded.

At least as important as the foregoing is the patient education plan in which the instruction of the patient as to the nature of the problem, its course, effect on his life, and the therapy and its effects should be detailed. Poor communication between the physician and the patient about his illness all too often creates patient discontent, failure to follow last minute instructions, and sometimes unnecessary morbidity. We cannot expect the patient to learn in minutes what some of us have spent years understanding.

Not every problem requires a plan; indeed some problems defy our ability to deal with them. But this does not mean that the problem should not be listed. Very often, a complete problem list will keep us from doing things out-of-context.

Progress Notes

The course of the patient's problems is documented in numbered and titled progress notes; the numbers and titles must correspond with these on the problem list. The progress note should consist of subjective data (how the patient feels about the problem), objective information (physical findings, lab results, etc.), assessment and further plans (divided into the categories outlined in the section on initial plans). It is not necessary to record information of each type in every note. An assessment may be needed, for example, only when a conclusion about diagnosis or therapy has been reached, or when subjective and objective data seem to be contradictory.

Whenever the patient is changing rapidly, or when there are multiple, interacting problems, it is often useful to construct a flow sheet of key observations so that their interrelationships may be more readily apparent. Obviously, it is unnecessary to record these observations in the progress notes in addition to the flow sheet.

Minor problems that appear to be temporary may be followed in the progress notes without being listed. These should be labelled "temporary problem" followed by the name of the symptom. If a symptom persists more than one or two days or requires diagnostic studies or significant therapy, it should be listed on the problem list. In the ambulatory setting many physicians keep a list of "temporary" problems attached to the major problem list and note the date of each recurrence. Thus it is possible to discover clusters of "minor" problems which may suggest a major difficulty, eg, frequent URI's resulting from an underlying immunologic defect.

The Guarantee of Quality

Does the POMR guarantee good quality medical care? In a word, the answer is "no." In settings where patient care responsibilities are shared by many, a well-structured medical record does enhance communication and thereby improves the chance that good care will result. But again, no record system by itself can "guarantee" good quality medical care."[5]

If the record won't do this task for us, how can we best proceed to solve the problem? The first and most important step is to clean up the medical records so that we can audit one another's work and thus help each other to do a better job. Peer review without records that preserve the physician's logic quickly becomes an exercise in futility and frustration for both the reviewer and the reviewed. The reviewer should look at each of the four phases of medical action for the characteristics of thoroughness, reliability, efficiency and soundness of analytic sense.

The audit of structured records should not be attempted unless an advance plan to correct the deficiencies detected has been formulated. Just as an audit without structured (POMR) records is impossible, the audit without a disciplinary feedback loop is a bad joke and a waste of time. So the quest for quality comes up against a tough obstacle: just how does the medical profession plan to discipline itself, or can it?

By audit and discipline, I do not necessarily mean that punitive action must be taken, though occasionally this will be required and again should be planned for in advance. To audit is merely to look for characteristics of performance and to discipline is "an effort to bring performance into line with an admired ideal," to quote John Gardner.

Disciplinary or educational efforts in the past have consisted of multiple courses or lectures on limited numbers of problems based on the naive assumption that the chance exposure of a physician in a lecture hall to certain facts would somehow be accurately and reliably connected to a patient's problem at some later date. This has clearly failed as witnessed by both rounds and CPC's illustrating the same recurring errors and by the increase in specialization as each of us has attempted to reduce the number of facts pressed into memory to an achievable size. Unfortunately, the patients haven't also specialized and continue to come up with problems outside our sphere of memorized knowledge. If courses, lectures, and rounds do not work, what is the answer? Ultimately, the answer lies in the technology of information management and most likely in the computer. We are now able to provide the physician (via the computer) with the facts he needs to do his work properly as he does it. Such a project has been in existence for nearly two years and hopefully will be expanded for the use of all within the not too distant future. Until the arrival of these new aids from technology, much can be done, however. The first step is to develop records to preserve a physician's logic, then to audit his performance, and finally to provide him with whatever disciplinary feedback is necessary. If physicians or students are found to fall short of the mark, courses and lectures should not be prepared to "fill the gap," but rather books and papers containing the necessary facts should be made accessible. Then when the audit turns up further failures, disciplinary efforts can be directed towards the development of characteristics such as willingness to look facts up, thoroughness, reliability, efficiency, and soundness of analytic sense, rather than towards further futile exercises in memorization out-of-context.

Occasionally, repeated audit will turn up those who are either unable or unwilling to improve their performance. Then will come the true test of leadership.

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STATEMENT OF OWNERSHIP, MANAGEMENT AND CIRCULATION

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C. Total Paid Circulation	758	763
D. Free distribution by mail, carrier or other means	185	186
E. Total Distribution	943	949
F. Office use, left-over, unaccounted, spoiled after printing	67	61
G. Total	1010	1010

I certify that the statements made by me above are correct and complete.

ANNE E. SHANE

LOW CEREBROSPINAL FLUID SUGAR SYNDROMES

• Determination of CSF sugar content is essential for diagnosis of bacterial, tuberculous, and fungal meningitis. Hypoglycorrhachia may also occur in diffuse meningeal neoplasia, CNS sarcoidosis, CNS viral infections, and after subarachnoid hemorrhage. Elucidation of the pathophysiology of hypoglycorrhachia may improve the significant mortality and morbidity of these diseases.

Leon D. Prockop, M.D.

The emphasis in this review will be on the pathophysiological mechanisms which cause or contribute to the low cerebrospinal fluid (CSF) glucose or hypoglycorrhachia, rather than on the clinical aspects of diagnosis and treatment. Selected articles which discuss treatment and other diagnostic considerations are included in the references.[1,2]

Introduction

First, the matter of definition arises, ie, when is a CSF glucose pathologically low. The usual statement is that the CSF glucose is normally one half to two thirds that of the serum. It is important to recognize, however, that this holds only for the fasting state. If the patient is not in a fasting condition, this one half to two thirds relationship may not hold true. For example, in a patient with diabetic hyperglycemia, the blood sugar may be 800 mg/100 ml, but the CSF sugar, without meningitis or other intrinsic central nervous system disease, may be 300. This is due to the membrane characteristics separating the blood and the CSF. The characteristics of the mechanism by which glucose is transported from blood to CSF, ie, facilitated diffusion, are such that the normal relationship between blood and CSF glucose cannot be maintained under the conditions of extreme hyperglycemia. Conversely, there are circumstances in which the CSF glucose level may be equal to, or higher than, that of the blood.

Figure 1 illustrates such a circumstance. This example is taken from a canine study, but the principles are applicable to humans. After a glucose load, which was administered in a fasting state, the blood sugar rose abruptly to the range of 400 mg/100 ml. It then fell dramatically and returned to normal levels by two hours after the glucose load. CSF fell more slowly so that at the two-hour time, the CSF sugar level was still at about the same range as the blood. This experiment illustrates that early in the course of a meningitis, it is possible for the CSF glucose to be greater than one half that of the blood, especially if the patient has had large carbohydrate intake within several hours of the lumbar puncture.

A comparison between blood and CSF glucose is truly reliable only in the fasting patient. If the CSF sugar is unequivocally low, ie, below 40 mg/100 ml, there is no difficulty in deciding that the CSF glucose is pathologically low. However, if there is any question, a repeat lumbar puncture should be performed within several hours so that the diagnosis of hypoglycorrhachia may become more secure.

Dr. Prockop is Associate Professor of Neurology, University of Pennsylvania, and Chief, Penn Neurology Service, Philadelphia General Hospital.

This paper was adapted from a presentation to the Neurology Conference, Wilmington Medical Center, October 14, 1971.

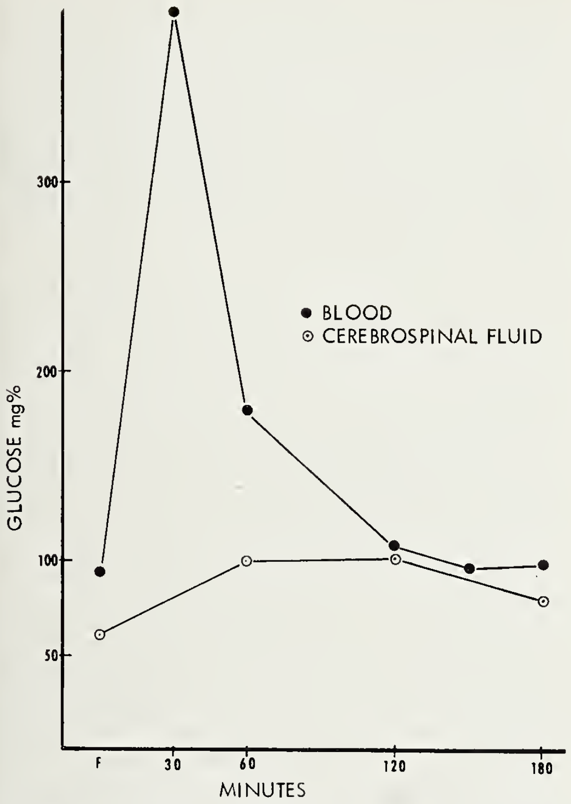

Figure 1. A graph depicting the time course of blood and cerebrospinal fluid glucose levels in a dog given a single dose of glucose intravenously (1 gm/kg) in the fasting state at point F. There was no CSF sample drawn at the 30-minute interval.

Differential Diagnosis of Hypoglycorrhachia

Infections are the most frequent cause of low CSF glucose. Purulent meningitis, tuberculous meningitis, and mycotic meningitis, are, in decreasing order of frequency, the most common etiologies.

Diffuse meningeal neoplasia, central nervous system sarcoidosis, meningoencephalitis, and hypoglycorrhachia secondary to subarachnoid hemorrhage, are less frequent causes of depressed CSF glucose but must be considered in any patient in whom CSF glucose exists. Because purulent meningitis is the most important clinical entity leading to hypoglycorrhachia, its pathophysiological mechanisms will account for the major portion of the discussion in this paper. Before discussing pathophysiology in purulent meningitis, the less frequent causes of hypoglycorrhachia should be considered.

Subarachnoid Hemorrhage

Merritt and Fremont-Smith,[3] in their now classic book, *The Cerebrospinal Fluid*, described patients who suffered subarachnoid hemorrhage with subsequent depression of the CSF glucose. In these patients, the onset between the episode of subarachnoid hemorrhage and the recording of the low CSF glucose was around six days. In subsequent years, there was much speculation as to the etiology of this situation. It was postulated that glycolytic enzymes, released by red cells which were undergoing lysis with a peak of lysis at the sixth day, were causing the hypoglycorrhachia. Madonick and Savitsky,[4] in their important paper on the subject in 1948, reported additional cases and discussed the possibilities of glycolytic enzymes. Troost, Walker and Cherington,[5] reported four additional cases in 1968. These cases were uncomplicated by infection or neoplasm of the central nervous system. The CSF glucose levels were markedly decreased. They noted a six- to eight-day interval between the subarachnoid hemorrhage and occurrence of the hypoglycorrhachia. In their discussion of the subject, they considered the possibility that clots forming in the choroid plexus might interfere with diffusion of glucose from blood into CSF. There is no evidence, however, that the membrane carrier system, ie, facilitated diffusion mechanism transport of glucose from blood to CSF, is altered by red cell breakdown. Likewise, glycolytic enzymes have, as yet, not been identified in CSF.

Meningoencephalitis

Viral meningitis is not usually associated with hypoglycorrhachia. In fact, normal CSF glucose is used to make the distinction between viral and bacterial meningitis. Rarely, however, hypoglycorrhachia may occur. For example, Wilfert[6] reported four patients with mumps meningoencephalitis who had pronounced lowering of the CSF glucose. She subsequently did a retrospective study of 45 additional cases of mumps meningoencephalitis and discovered ten additional patients with CSF glucose values of less than 40 mg/100 ml. Herpes simplex encephalitis and subacute sclerosing panencephalitis are rare diseases in which hypoglycorrhachia occasionally appears.

Neoplastic Infiltration of the Meninges

Hypoglycorrhachia may also occur with diffuse infiltration of the meninges with neoplasm. This is frequently referred to as meningeal carcinomatosis, but the neoplasm need not be carcinoma. This syndrome was described in the German literature by Rindfleisch in 1904.[7] Little attention was paid to the syndrome until 1952, when four patients were reported in the Proceedings of the Mayo Clinic[8] by Dodge, Sayre and Svien. In the next year, Berg[9] reported four additional patients and reviewed a total of 46 cases of patients who had cerebrospinal fluid studies and, subsequently, autopsies or biopsies to confirm diffuse neoplasia of the meninges. Of the 46, 43 had CSF glucoses which were definitely low, ie, less than 40 mg/100 ml. In this situation, the low glucose syndrome is not pathognomonic of any neoplasm but is dependent upon meningeal infiltration. In the cases that Berg reviewed, there was a variety of secondary metastatic diseases of the central nervous system. The primary sites of neoplasia included breast, lung, the gastrointestinal tract, melanoma, lymphoma, and sarcoma. Occasionally, the hypoglycorrhachia may be seen in association with primary neoplasm of the central nervous system, eg, glioblastoma, astrocytoma, pinealoma, and medulloblastoma. It may be seen without the association of focal neurological deficit, ie, it may appear in patients with headaches and various degrees of obtundation. Focal signs may be present. Kim and Resnick[10] recently reported two cases. One patient had carcinoma of the breast with multiple metastatic lesions, confirmed by angiography. The patient had presented with a left hemi-sensory and hemi-paretic syndrome. The second patient presented with a lymphoma of the central nervous system without localizing signs but with nuchal rigidity, which first suggested meningeal involvement.

Hypoglycorrhachia in Purulent Meningitis

Having considered the differential of the infrequent causes of low CSF glucose, the perhaps special case of purulent meningitis should be reviewed.

1. Mechanisms

In general there are three possible mechanisms responsible for the lowering of CSF glucose. These are: glycolysis by phagocytizing white cells in the presence of bacteria; alteration, ie, decrease, in the facilitated diffusion of glucose from blood into CSF; and increased brain utilization of glucose. All three of these are hypotheses, with perhaps varying degrees of validity, ie, they may all contribute to lowered glucose to some degree. The third one mentioned is a hypothesis which has been raised at various times but was recently restated by Menkess[11] in an editorial which appeared in *Pediatrics* in July, 1969. Under normal conditions, the brain oxidizes about 85% of the glucose it utilizes while 15% is metabolized by glycolysis with lactic acid as a product. It is hypothesized that increased lactic acid seen in cerebrospinal fluid, particularly in purulent bacterial meningitis, is evidence of a significant decrease in the cerebral glucose utilization and an increase in glycolysis. Since the metabolic rate is presumably increased with the fever and inflammation, the brain is requiring more glucose. As decreased cerebral glucose level results, the CSF glucose level reflects the increased brain glucose needs combined with increased glycolysis. This is an attractive hypothesis, but there is no experimental evidence to support it at the present time.

The other two possibilities are each supported by a variety of experimental evidence. A number of workers, particularly Petersdorf and Harter, have been concerned with the hypothesis that phagocytizing white cells in the presence of bacteria account for hypoglycorrhachia.[12,13] According to this reasoning, both clinical meningitis and experimental meningitis are characterized by pleocytosis in the presence of bacteria and depression of the spinal fluid sugar. The depressed sugar is not usually seen in the presence of viral meningitis despite the presence of leukocytes. If sterile, cell-free spinal fluid is incubated for prolonged periods of time, the glucose remains constant. When pneumococci alone are incubated in cell-free, sterile CSF, no significant depression of the glucose occurs unless the number of organisms present far exceeds the number present in usual clinical infections. However, when polymorphonucleocytes are added to sterile CSF, the level of glucose is dramatically reduced. In *in vivo* studies, if dogs are inoculated intracisternally with pneumococci, they develop meningitis quite similar to that seen in humans. In this circumstance, the CSF glucose falls dramatically. If, however, dogs are irradiated prior to inoculation with pneumococci (with resulting bone marrow suppression so that leukocyte response is impossible), the dramatic depression of CSF glucose does not occur. In 1969, Chalhub reported *in vitro* studies of glucose consumption in CSF.[14] When leukocytes, observed in the concentrations seen in experimental meningitis, were incubated in fresh CSF for seven hours, the glucose decreased from 80 mg/100 ml to less than 10 mg/100 ml. Negligible consumption of glucose occurred when bacteria were incubated in fresh CSF. When sonicated leukocytes were injected into animals, the CSF glucose dropped. Injection of similarly lysed bacteria did not cause a decrease in CSF glucose.

These and similar experiments led to the conclusion that actively phagocytizing white cells in the presence of bacteria contribute significantly to the depressed CSF glucose in bacterial meningitis. Obviously, this explanation would not account for hypoglycorrhachia in the more chronic infections of tuberculous meningitis and fungal meningitis. In these two conditions, the number of white cells is quite small, especially when compared to that seen in bacterial meningitis. Nor would this explanation account for the hypoglycorrhachia of the other syndromes previously discussed, eg, subarachnoid hemorrhage and neoplasia.

2. Blood-CSF-Barrier Considerations

In order to consider the third mechanism by which CSF glucose could be rendered low (ie, the possibility that there is interference with the transfer of glucose from blood to CSF), it is first important to review the physiological considerations governing the concept of the Blood-Brain-Barrier (B-BB) and Blood-CSF-Barrier (B-CSF-B). Because of the different composition of plasma, as compared to CSF and as compared to brain extracellular fluid, the concept of the B-BB and B-CSF-B is well accepted. These barriers, which are functionally identical, can be considered as a series of mechanisms which protect the brain from any violent changes, maintaining within very narrow limits the chemical milieu for neurons and protecting the central nervous system from the entry of noxious substances. The concept of the B-BB developed from various approaches: morphological, physiological, physiochemical and biochemical. Because the B-BB is essential to understanding central nervous system physiology, pathophysiology and metabolism, intensive research has been conducted in various disciplines. Since Ehrlich reported the B-BB phenomenon in 1885, several thousand related articles have been published. For recent reviews, the reader is referred to Lee[15] and to Prockop.[16]

It is, however, important to realize that the barrier is a relative one and is not absolute. It regulates the rate of exchange of substances between the blood and brain and between the blood and the CSF. The amount of a substance in the CSF, for example, is a function of the quantity that enters directly by way of the choroid plexus in newly formed secretion and indirectly by diffusion from the nervous system tissue, less that amount removed by nonspecific bulk flow and by specific active removal by the choroid plexus. There are mechanisms for active removal of certain substances. Many of the removal mechanisms are contained anatomically within the choroid plexus. The B-BB and B-CSF-B are, therefore, dependent upon the membrane characteristics separating the compartments under consideration. These membrane characteristics provide a more selective membrane interface between the blood and central nervous

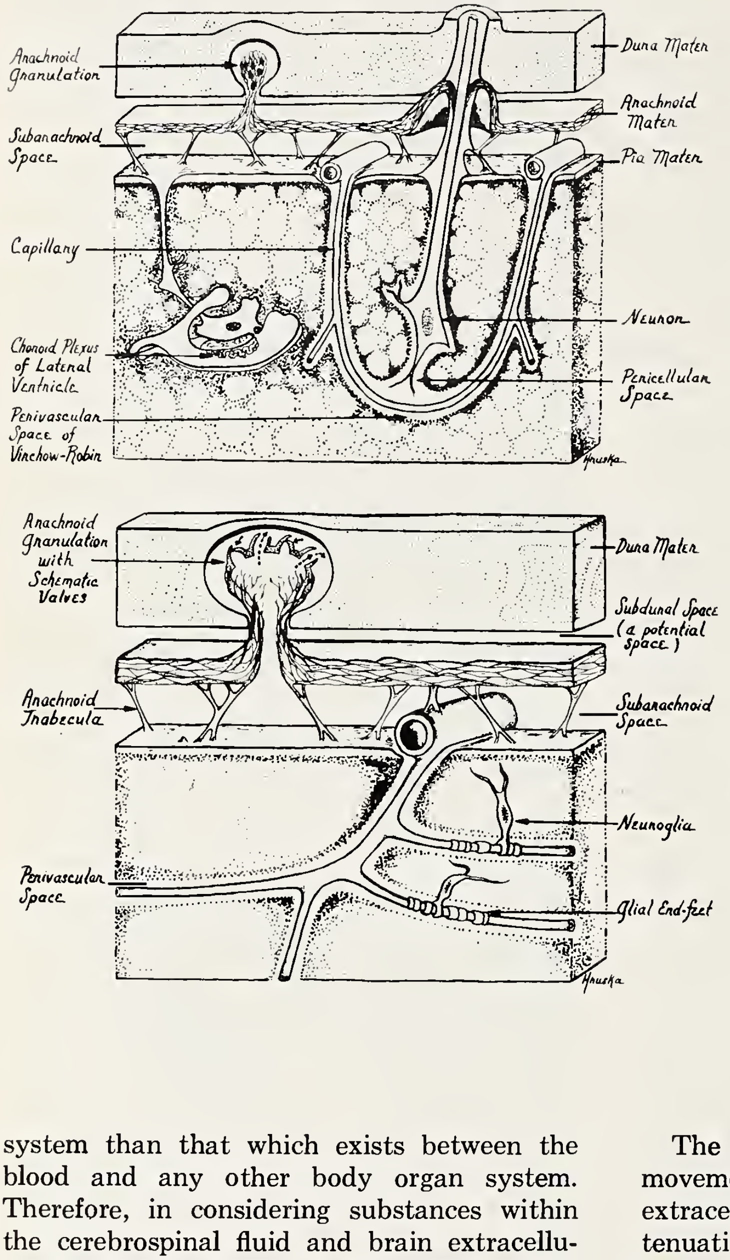

Figure 2. Diagrammatic representation of the central nervous system with reference to the CSF circulation. (After W. L. Aycock, M.D., Ass Res Nerv & Ment Dis 4:222). The upper portion illustrates that fluid formed within the ventricular system reaches the subarachnoid space to take exit via the arachnoid granulation and villi. Fluid may also interchange with brain extracellular fluid in the pericellular spaces via the perivascular spaces. Fluid may also have access to exit along the nerve sheath as an axon extends from the neuron. The space between the dura mater and arachnoid mater is only a potential space and not real, as indicated here for schematic purposes.

In the lower portion of the figure, the glial end-feet partially enveloping a cerebral capillary are schematically indicated. An arachnoid granulation contains schematic valves. The small solid arrows indicate a situation in which the hydrostatic pressure of the venous blood within the dura mater sinus is higher than that of the CSF within the granulation with resulting valve closure. This prevents reflux of blood into the CSF compartment. The dashed arrows indicate the reverse, ie, CSF pressure higher than sagittal sinus venous blood pressure. The valves are open with resulting bulk flow of CSF outward into the venous system.

system than that which exists between the blood and any other body organ system. Therefore, in considering substances within the cerebrospinal fluid and brain extracellular fluid compartments, it is necessary to define the exchange mechanism. Considering the B-BB first, it is obvious that the characteristic capillaries, the astrocytic feet, the small brain extracellular space, and lack of connective tissue stroma, all offer limited and selective entry of substances into the brain extracellular fluid. Figure 2 provides a diagrammatic illustration of the anatomical concepts covering the B-BB and B-CSF-B.

The blood capillaries present a barrier to movement of substances from blood to brain extracellular fluid. They lack membrane attenuations called fenestrations and have well defined basement membranes. There is also an absence of a significant number of vesicles in the cytoplasm of the endothelial cells of brain capillaries. For example, horseradish peroxidase when given intravenously does not escape in the brain capillaries because passage between endothelial cells is blocked by the presence of tight junctions. In addition to these characteristics of the capillaries themselves about 85% of the surface of the capillary is closely surrounded by protoplasmic processes from neighboring astrocytes, ie, astrocytic feet. These feet provide a further membrane barrier to diffusion. In addition, the brain lacks connective tissue stroma which distinguish its extracellular transport from that of other organs.

Considering the B-CSF-B, the special characteristics of the choroid plexus allow for the secretory entry of substances into the cerebrospinal fluid as well as for bi-directional exchange between CSF and plasma. The plasma or cell membranes of the brain capillary endothelium, pericapillary processes, and choroid plexus epithelium, all play a part in energy dependent transports across the B-BB and B-CSF-B. The plasma membrane and barriers involved have properties similar to that of the lipoid membrane. The first and simplest method of exchange across this membrane is by passive diffusion, dependent upon the passage through intact cells, whether they be in the choroid plexus, ependyma, or the glial sheath around the capillaries. Substances with a high degree of lipid solubility, low degree of ionization and lack of plasma-protein binding move into the brain and CSF freely and will attain equilibrium rapidly. The rate of passive diffusion is dependent upon the concentration gradient between blood and CSF, and is such that smaller molecules move faster than large, and anions move more rapidly than cations.

How does this apply to glucose? Glucose has a very low lipid solubility but does not have significant plasma-protein binding. Its passage by simple diffusion is generally quite slow because of its molecular characteristics.

In addition to simple diffusion, the B-BB and B-CSF-B possess a carrier-mediated mechanism, ie, facilitated diffusion to augment entry of many substances, especially glucose. The mechanism of carrier-mediated transport possesses characteristics of bi-directional transport, saturability, competitive inhibition, and molecular stereospecificity. Fishman established that the B-CSF-B is such that movement of glucose between blood and CSF is governed by carrier-mediated transport, ie, facilitated diffusion, in addition to simple diffusion.[17]

Inhibition of Glucose Facilitated Diffusion in Purulent Meningitis

With these factors governing the movement of glucose from blood to CSF in mind, it is now possible to reconsider the third possibility for the pathophysiological mechanisms causing hypoglycorrhachia. Prockop and Fishman studied glucose transport in the model of acute pneumococcal meningitis in dogs.[18] They were able to study the movement of 3-O-methyl-glucose from blood to CSF and also from CSF to blood in dogs in their normal condition and subsequently, after the dogs had been inoculated with type-11 pneumococci. Glucose and 3-O-methyl-glucose share the carrier-mediated transport mechanism. The characteristics of the meninges in the animals were clinically indistinguishable from that in humans. CSF findings were also similar. In these *in vivo* studies, three significant findings were demonstrated: a nonspecific increase in general membrane permeability, a relative block to the exit of large molecules, and a bi-directional inhibition of the membrane carrier-mediated facilitated diffusion governing the entry of 3-O-methyl-glucose. It is therefore possible to say that there is experimental evidence to the effect that in the condition of purulent meningitis, both glycolysis by phagocytizing white cells in the presence of bacteria and a decrease in the facilitated diffusion of glucose into CSF contribute to the hypoglycorrhachia.

Although the work of Sifontes *et al*[19] showed inhibition of the entry rate of glucose into CSF in children with tuberculous meningitis following intravenous loads, there is little other clinical or laboratory evidence to establish causes of hypoglycorrhachia in other conditions. It is likely, however, that because of the low leukocytic response in other conditions the glycolysis by cells plays a small role. Perhaps the inhibition of the carrier-mediated transport of glucose is the operative factor, particularly in the carcinomatosis of the meninges with the resulting thickening of the membranes, as well as in the other subacute forms of meningitis.

ACKNOWLEDGEMENT

The author gratefully acknowledges the assistance of Mrs. Geraldine Pollock in preparation of the illustrations and manuscript.

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* * *

TRAFFIC ACCIDENTS*

The safety features installed in new vehicles are beginning to show a favorable effect on the severity of highway accidents. This is an encouraging sign, and the Federal and private agencies that are carrying out research designed to create safer cars and highways are to be commended. However, the total picture is far from rosy. Highway fatalities and injuries remain numerous, primarily because of drunken or careless driving.

A quiz is presented below concerning 1970 accident data. The information was derived from "Voice Behind the Wheel," a booklet published by The Travelers Insurance Company.

TRAFFIC ACCIDENT QUIZ

Questions

1. In 1970 the number of persons *killed* in traffic accidents was:
   (a) higher than in 1969. (b) lower than in 1969.
2. The number of persons *injured* in traffic accidents in 1970 was:
   (a) higher than in 1969. (b) lower than in 1969.
3. Collision with another motor vehicle was responsible for what percentage of traffic *deaths?*
   (a) 40.6% (b) 27.7% (c) 10.1%
4. Collision with another motor vehicle was responsible for what percentage of highway *injuries?*
   (a) 92.3% (b) 73.2% (c) 42.9% (d) 22.1%
5. 39.3% of traffic deaths resulted from which of the following?
   (a) exceeding the speed limit. (b) driving off the roadway.
   (c) passing on the wrong side.
6. The largest number of accidents involve persons in which of the following age groups?
   (a) under 18 (b) 18-24 (c) 25-34 (d) 35-44 (e) 45-54 (f) 55 and over
7. Persons under 25 constitute what percentage of the driving population?
   (a) 31.9% (b) 21.4% (c) 17.8%
8. Which type of vehicle was involved in the greatest number of accidents?
   (a) commercial vehicle (b) motorcycle (c) passenger car
9. On what day of the week do most fatal accidents occur?
   (a) Monday (b) Wednesday (c) Friday (d) Saturday (e) Sunday
10. More deaths occur over which of the following periods?
    (a) 6 a.m. to 6 p.m. (b) 6 p.m. to 6 a.m.

(*Answers may be found on page* 287.)

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*This quiz was compiled by Joan H. Donoho.

ELECTROMYOGRAPHY AND NERVE CONDUCTION STUDIES

This paper reviews the electromyographic and nerve conduction studies in a variety of neuromuscular disorders.

Wai Wor Phoon, M.D.
Anthony L. Cucuzzella, M.D.

Electromyography is the recording of the action potentials of muscles. The system consists of electrodes, stimulator, preamplifier and amplifier, and a recording apparatus which may contain an oscilloscope, a loud speaker, and a tape recorder. A needle electrode is inserted into the muscle to be examined; when the muscle contracts, an action potential is generated. This is then amplified and displayed on the oscilloscope. At the same time, the sound produced is amplified through the loud speaker (Figure 1).

Technique of Electromyography

The usual procedure in an examination is as follows:

1. The patient is put in the most comfortable and accessible position possible.
2. The skin over the muscle is cleaned, and a sterilized needle electrode is inserted.
3. The examiner then observes:
   a) Insertional activities. These are short-lived electrical potentials present at the insertion of the needle. They disappear when the movement of the needle has stopped.
   b) Spontaneous activities. In a normal muscle at rest, there should be no activities seen except for the short burst of insertional activities. However, if denervation is present, fibrillation potentials will appear. Positive waves are another kind of activity seen in denervation. Fasciculations are spontaneous firings of motor units which may appear in diseases affecting the anterior horn cells. The myotonic pattern is characterized by rapid changes in frequencies in firing of action potentials. The change gives rise to a 'dive bomber'-like sound.
   c) Electrical activities on voluntary contraction. The patient is instructed to contract the particular muscle, and the patterns of minimum and maximum contractions are studied. A typical motor unit potential may be isolated by minimal contraction.

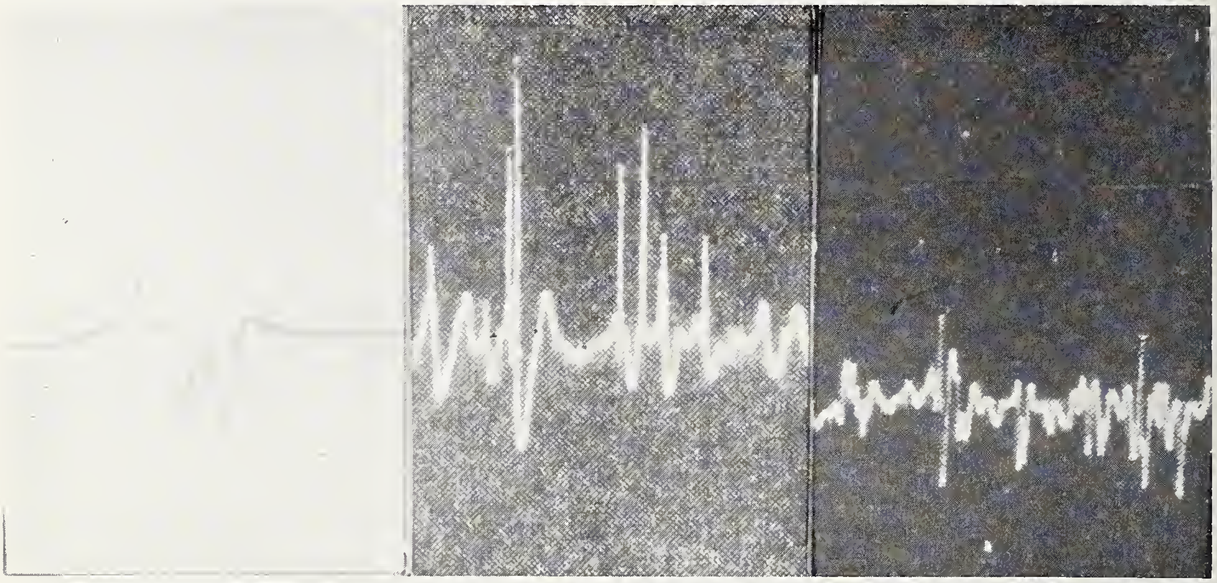
The amplitude, duration, and wave form of the unit are noted. Then the patient is asked to contract with full force. Many motor units are recruited, and an interference pattern is seen on the oscilloscope.

Uses of Electromyography

Electromyography is most helpful in the diagnosis and localization of diseases involving the motor unit, namely, conditions affecting the anterior horn cell, the axon, the neuromuscular junction, and the muscle fibre.

Drs. Phoon and Cucuzzella are with the Department of Physical Medicine, Wilmington Medical Center.

ELECTROMYOGRAPHY



A. Polyphasic unit B. Normal motor unit C. Myopathic pattern

Figure 1

Anterior Horn Cell Lesions

Typically, the interference pattern is reduced here. The action potentials have normal or increased amplitude and duration, and the wave form may be polyphasic. Examples of this group are motor neuron diseases, ie, poliomyelitis and infantile spinal atrophy.

Radiculopathy

Electromyography helps in the diagnosis, but a normal EMG does not necessarily rule out radiculopathy. Common EMG findings in the muscles supplied by a damaged nerve root are: prolonged insertional activities, increased polyphasic motor units, fasciculation potentials, fibrillations (these appear after axon degeneration takes place), and bizarre high frequency potentials.

The posterior group of muscles, eg, the paraspinal muscles, should always be examined as positive findings are sometimes present in these muscles only. In cases suspected of sacral root involvement, the anal sphincter muscles can be examined for signs of compression or irritation.

Myasthenia Gravis and Myasthenic Syndrome

In myasthenia gravis, there is a gradual diminution in voltage of the motor unit pattern during sustained contraction of the muscle or repeated stimulation of the nerve that supplies the muscle. In myasthenic syndrome associated with bronchogenic carcinoma, however, there may be an initial drop in voltage of the motor unit, but subsequently the voltage rises in amplitude.

Myopathies

Typically, the motor unit is low in voltage and short in duration and has a polyphasic wave form.

Nerve Conduction Studies

Nerve stimulation techniques are used to study the state of motor and sensory fibres.

In motor conduction studies, the nerve in question is stimulated at one point with a recording electrode placed over a muscle supplied by the nerve. The time delay between the stimulation and the beginning of motor unit response is the latency. The nerve then is stimulated at another point. The latency is again noted. The distance between the two simulation sites is measured. This length, when divided by the difference in the latencies, will give the velocity of the nerve in that part of the body. In peripheral nerve injuries or diseases, the velocity is slower than normal depending on the degree of degeneration. In the carpal tunnel syndrome, the latency of the median nerve across the wrist is increased.

Sensory conduction studies can be done orthodromically (from distal to proximal) or antidromically (the reverse). For example, the median nerve's sensory fibres can be stimulated orthodromically by ring electrodes wrapped around the index or middle finger with the pick-up electrode placed over the wrist, or antidromically with a pair of stimulators at the wrist and the pick-up electrodes wrapped around the fingers.

Carpal Tunnel and Tarsal Tunnel Syndromes

In carpal tunnel syndrome, the motor and sensory conduction latencies of the median nerve across the wrist are delayed. Sometimes the sensory latency may be the only one that is affected. The diagnosis of the conduction can be helped by noting the latency and the characters of the evoked potential and also by comparing the latency with the contralateral side. Similarly, the posterior tibial nerve may be entrapped behind the medial malleolus.

Ulnar Nerve Entrapment

The commonest site for an entrapment is at the elbow. In this case, there is slowing in conduction velocity across the elbow as compared to normal values in the arm and forearm. If denervation occurs, then fibrillation potentials will be seen in the muscles supplied by the nerve distal to the lesion.

Facial Palsy

Fibrillation potentials sometimes take two or three weeks to appear after the palsy has appeared. The nerve may be stimulated at the styloid foramen with the pick-up electrodes placed over a facial muscle. If no evoked potential can be recorded, complete denervation is suspected. On the other hand, the presence of an evoked potential may indicate the lesion is partial and the prognosis more favorable.

Summary

Electromyography and nerve conduction studies can contribute to the differential diagnosis of diseases of the neuromuscular system. The underlying principles, techniques, and expected findings with various abnormalities have been briefly reviewed.

* * *

ANSWERS TO TRAFFIC QUIZ

(*Quiz on page* 284.)

1. (b) 56,500 persons died from traffic accidents in 1969 vs. 55,200 in 1970.
2. (a) Injuries increased by 400,000 to 5,100,000 during 1970.
3. (a) 22,400 people died in these collisions.
4. (b) 3,733,000 injuries resulted from these collisions.
5. (a) 14.5% and 13.8% of the fatalities were caused by (b) and (c), resp.
6. (b) 29.0% of fatal and 28.3% of non-fatal accidents involved persons 18-24.
7. (b)
8. (c) Passenger cars were involved in 78.1% of all fatal, and 88.0% of all non-fatal accidents.
9. (d) 20.8% of the traffic deaths occurred on Saturday. The second highest number of deaths occurred on Sunday (17.6%).
10. (b) 56% of all highway deaths occurred from 6 p.m. to 6 a.m. the following morning. 34.4% occurred from 6 p.m. to midnight.

Book Reviews

THE COMPLETE HANDBOOK FOR MEDICAL SECRETARIES AND ASSISTANTS, edited by **Robert L. Dannis, M.D. and Jean Monty Doyle, R.R.L.,** Little, Brown and Co., Boston, Mass., 1971. Price $9.50 (paper).

The purpose of this handbook as stated by the authors (a physician and a registered record administrator) is "to give a single, simple source of reference."

The contents include chapters of general information on bookkeeping, ethical and medicolegal responsibilities, and descriptions of the different types of doctors and their practices.

There are several good chapters on requirements and duties of medical assistants (for example, how to process death certificates and probating), Emergency First Aid in the Office (covering the most common office emergencies), and typing reports and correspondence (hints on correcting typing errors, such as rubbing white chalk over erasures, and a handy reference for dividing words, typing numbers, etc.).

For the Medical Assistant new to her field, there are most enlightening chapters on hospital organization, medical and anatomical terminology and vocabulary, the clinical laboratory and radiology, and the medical history and physical examination (with helpful specific case reports from each medical specialty).

The chapter on insurance is fairly comprehensive, considering the constant changes within Medicare, Medicaid, and other third-party insurance carriers. There is the useful suggestion for Workmen's Compensation work to keep a list of the most well-known insurance companies and the industrial plants and companies that refer cases to your doctor.

Very detailed information on laboratory and radiology workings and procedures is given, and there is an excellent glossary listing many terms and drugs which are always difficult to find in the medical dictionary (interesting examples include: listing of lipids and radioisotopes and such hard to spell names as Wenckebach's syndrome and Tietze's syndrome).

It is apparent that there is much useful information here, both for the previously untrained Medical Assistant and for those who are experienced Medical Assistants.

Martha E. Baynard, C.M.A.*

* * *

MEDICAL BIBLIOGRAPHY An annotated check-list of facts illustrating the history of medicine (Garrison and Morton). **Leslie T. Morton.** 3rd edition. Andre Deutsch, 1970.

In the introduction to this remarkable book of which we have just become aware, Starling, widely remembered for his law of myocardial contraction, is also quoted as having postulated another less well-known but even more immutable law of medicine:

> "Every discovery, however important and apparently epoch making is but the natural and inevitable outcome of a vast mass of work, involving many failures, by a host of different observers."

Originally stimulated by a suggestion of Dr. William Osler, Fielding Garrison's first list of some 4000 important medical papers has now been expanded to close to 7000, and the second edition of 1965 has recently been reprinted.

The oldest reference is to Hammurabi, King of Babylon, who wrote his code around 2250 B.C. The list is new enough to include papers by many for whom the right hand date brackets still contain an empty space, like Salk and Zollinger. Bence Jones (of the protein) is listed, as are Charcot, Dupuytren, and Colles of the fracture (his paper was published in Edinburgh in 1814). One of the most intriguing titles we noted was Samuel Gross' paper (1836): "Observations on manual strangulation, illustrated by cases and experiments."

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*Certified Medical Assistant

The book, which is amazingly small in format considering the enormity of its contents, is divided into sections by diseases as well as disciplines. The paper in which Edmund Axmann described ostogenesis imperfecta in himself and his two brothers (1831) is indexed along with Reiter, Hurler, and Letterer in the section "Conditions and Syndromes Not Classified Elsewhere."

Unlike most reference books, this is a book for browsing, for marveling, for recalling the vast numbers of our important predecessors. In his introduction the editor, Leslie Morton, who is librarian of the National Institute for Medical Research in London, and whose labors in preparing this book can only be guessed at, expresses the hope "that this book will in some measure fulfill its object of assisting those who are interested in the record of past achievement and in the further development of medical science."

Should that not include all of us?

Bernadine Z. Paulshock, M.D.

* * *

CHEMICAL AND BIOLOGICAL ASPECTS OF DRUG DEPENDENCE, S. J. Mule and H. Brill, Editors. The Chemical Rubber Co., (CRC) Press. Cleveland, Ohio, 1972. pp.. 561. $35.00.

"It is the purpose, indeed the objective, of this monograph to provide the scientist with a reference text that provides the basic knowledge and background information that currently defines the chemical and biological basis of drug dependence." This rather long, not especially beautiful, yet clear sentence taken from the preface defines the style and the fulfilled aims of this book.

Thirty-three contributors, many of them outstanding and leading researchers in their fields, have extensively covered the clinical significance and characteristics of drug dependence, the nomenclature, the classifications of physical and psychical drug dependence, the criteria for evaluating drug dependence, the chemical aspects, and the biochemical aspects of drug dependence.

Each section tries to be as complete and up-to-date as possible and is accompanied by extensive bibliographic references. A separation is normally maintained throughout the book between narcotic analgesics and their antagonists, the alcohol-hypnosedative group, the CNS stimulant and hallucinogenic drugs. Cannabis and alcohol quite often receive a separate discussion of their various chemical, pharmacologic, and biologic aspects. The book includes works and reviews of such seldom visited areas as neuropathology of drug dependence, teratogenicity, embryolethality and nutagenicity, or the effects of drugs in hormone balances.

In spite of the 561 pages of crowded information, one can still pick this book up with one hand. It is an invaluable reference source at a time when this field is becoming increasingly important. In spite of the encyclopedic nature of the book, there is, unfortunately, no cross index at the end, which would have added so much to the already great value of this work. The clinical aspects are but one of the many areas discussed, and, although the practical clinician will certainly find here a wealth of information, he will be disappointed by the generality of the discussion on practical aspects of management. This is not due solely to the more basic scientific orientation of the book, but also to the limited amount of experience already available and to the enormous field still to be covered. The sociological aspects of drug dependence are not discussed since they are beyond the scope of the book.

In short, this is a very complete review of an urgent and growing problem in which a great deal of confusion still persists — a problem which, nevertheless, constitutes a disappointing aspect of human behavior at a time in the century when, after so much material progress and increasing social understanding, we thought we were going to enjoy the real fulfillments of individual freedom and mature enjoyment of an advanced democratic society.

Oscar S. M. Marin, M.D.

Delaware Academy of Family Physicians

REPORT FROM HEADQUARTERS

The Academy's annual July survey of family practice residencies shows that 1,015 young graduates are training to be family physicians.

This figure almost doubles the number who were enrolled in residency programs a year ago and is three times more than were in training in 1970.

The survey also indicates that 81 percent of the available first-year family practice residency slots are filled, bettering by 10 percent the figure in 1971.

Three years ago, there were 20 approved programs; now there are 107. Currently there are 34 departments and 31 divisions of family practice in the nation's 105 medical schools.

Clearly, the family practice movement is gaining the strength which will be necessary to produce an innovative impact on the American system of health care delivery.

Many educators who were skeptics three years ago have become family practice advocates; others who rejected the concept of a specialty in breadth are taking respectful note of its development.

The Academy is the only organization which gathers and coordinates these statistics on the residencies and programs. The Education Division has accepted the responsibility of formulating a list of all approved programs and names of the directors. The listing is updated after each meeting of the Residency Review Committee for Family Practice and sent to all deans of medical schools, libraries of the schools, national headquarters of the Student American Medical Association, and numerous individuals who have requested the information.

Another exclusive service of the AAFP Education Commission is on-site consultation with program directors, which expedites their planning.

The Academy sponsors regular workshops in family practice. This year we sponsored two: one for directors of approved programs and another for those in charge of programs under development.

It is understandable that the Academy is considered a prime resource in family practice, since this organization spearheaded efforts to establish the specialty and we continue to offer the multiple services mentioned above. We carry the responsibility with pride.

However, I agree with the Commission on Education that we must emphasize to students, practicing physicians, and educators that the Academy does not administer the certification exam, or determine eligibility for taking it. These are prerogatives solely of the American Board of Family Practice.

It has come to our attention that some graduates of general practice residencies have been told they were eligible to sit the examination without practice experience. This is not so. Of course, we regret that young persons are misinformed but can offer no recourse to them. We will continue to stress that questions of eligibility must be directed to the ABFP.

Chapter officers and executives have played an indispensable role in getting the family practice movement off the ground. Countless hours of effort continue to go into promoting state legislation, planning departments, injecting enthusiasm into grassroots projects, acting as preceptors, and joining family practice faculties.

You also can help eliminate any confusion about the complementary but autonomous natures of the American Academy of Family Physicians and the American Board of Family Practice. Both organizations are striving for excellence each has its role and prerogatives.

Roger Tusken
Executive Director
American Academy of
Family Physicians

Editorials

DANGEROUS DISCOVERIES

It is a truism that the discovery of each new substance with any kind of biologic activity will be accompanied by some sort of biologic threat to the earthly microcosm. The new substance may be an insecticide which indirectly damages birds' eggs, or new antibiotics which might lead to the selection and development of threatening mutant strains of bacteria.

Similarly, every time the clinician develops a new artificial situation which markedly affects patients, an immediate search should be made for adverse effects. In some instances the adverse effects may not only threaten a patient, but his physician as well. An example of this thesis is the dangers associated with renal dialysis and the secondary effects of immunosuppression for the patient and indirectly the attending staff. Dangers to the patient include electrolyte abnormalities, peculiar alterations of hormonal balances, obscure adverse effects on the hematologic system, susceptibility to infection, and even psychologic effects which are difficult to measure. An extreme illustration of the danger to such patients treated by immunosuppression is the threat of undetected cancer cells in the transplanted kidney and the development of new cancers from the patient's tissues. As immunosuppression by chemicals and antilymphocyte globulin reduces the natural surveillance mechanisms — probably lymphocytes — abnormal cells can apparently gain a foothold, grow, and then generate their own antigenic material which may further neutralize defense mechanisms. There are informal reports of the development of over 25 malignancies in relatively young patients treated with immunosuppression measures for a brief period of a few years. One might expect that other diseases in which cellular immunity plays a major role will also develop in such patients. For example, latent tuberculosis may become activated and these patients are probably more susceptible to infections with fungi and certain viruses.

Outbreaks of hepatitis are extremely common in patients undergoing renal dialysis. They are exposed to multiple blood transfusions and have a reduction of normal defenses. It has been noted that often times the course of this disease is not as severe in patients under immunosuppression, probably because the antibody-antigen-tissue reaction is also suppressed. This result is not unlike the amelioration of certain virus diseases in newborn animals without mature immune reactions. The situation is one which would allow the tissues to produce large amounts of virus.

Unfortunately, such outbreaks of hepatitis provide a major threat to the staff members in such units, and the number of nurses and physicians who have developed severe and even fatal hepatitis has become a problem of major importance. It is clear that immediate steps must be taken to protect the staff members of such units and that the casual visitations of such units by relatives and hospital staff members must be stopped. The unit should be separated from hospital activities and appropriate warnings of "Biological Hazard" be posted. Apparently the prophylactic treatment of the staff members of dialysis units with gamma globulin has not been effective, but a vigorous assessment of the dangers of this prophylactic treatment has not been made. From a medical-legal standpoint, it would seem wise that all medical centers inform prospective employes in such units of the dangers associated with them and that, if possible, blood samples be obtained before employment so that the levels of the AU-SH antigen be detected. Perhaps only persons with positive AU-SH antigenicity should be employed.

One hopes that more strenuous efforts will be made to separate renal dialysis units from the normal exchange of hospital traffic, and that proper isolation technics plus separate air discharge be used.

These episodes again remind us that there is a biologic price to pay for each new development of a biologic active substance or procedure.

George E. Moore, M.D.

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JOSEPH A. ELLIOTT, M.D.

President, Medical Society of Delaware, 1972-1973

President's Page

ITEMS OF PRIMARY CONCERN

This will be my first effort writing for the President's Page of the *Delaware Medical Journal.* I feel that it may be appropriate to discuss briefly some of the things that will concern the Board of Trustees for the coming year.

There are a few things left unfinished from Dr. Baganz's tenure as president. One is his request that the study to restructure the State Society be continued. After Dr. Baganz's appointment of the By-Laws Committee to perform this task, the chairman posed a number of general questions to promote discussion pertinent to this gigantic task. The recent House of Delegates Meeting voted approval for this study to continue. Another item left unfinished is the Delaware Foundation for Medical Care. I am concerned that a majority of physicians may be poorly informed concerning the aims of this organization. Seventy-eight percent of physicians stated they wanted to see further development of the Foundation before expressing any opinion. There are some other questions to be asked concerning the Foundation as well, but since it is still in the planning stage, they may not be pertinent. I commend the Foundation for its activity and zeal, but I must caution that they should keep Society members informed — perhaps at county level rather than at Trustees meetings. I am sure that an invitation from the County Societies for information at a County meeting will be readily accepted by a member of the Foundation's Board of Directors or Mr. Ronald McCoy, the Foundation's Project Director.

Among other problems facing the Society are:

1) Attracting young physicians to lower Delaware, particularly primary physicians. This will be high on the agenda for consideration.
2) Lack of information to members of the three County Societies. Perhaps a method other than relying on the County Trustees to inform the constituents should be considered.
3) Indifference to Society activities by some of its members. The problem would seem to be multi-faceted, but in the framework of numbers one and two above, I believe this could also be discussed and hopefully improved upon.

I would like this opportunity to tell you that this Society has been guided by an extremely skilled administrator, Dr. Baganz. We have been most fortunate to have had him at the helm during some of these trying days. I hope, whenever his time permits, that he will allow us to consult with him on whatever pertinent problems arise. We also had some very hard-working committees, who have contributed invaluable service to the Society. These are the force moving the Society forward and keeping it informed with respect to their different functions.

One final topic: I would like to see the Trustees' meetings shortened somewhat. This will be my job, but I will welcome suggestions that are practical. I am afraid that topics of importance requiring serious thought will not be adequately considered because of fatigue of Board members after hours of discussion on a myriad of subjects.

The Woman's Auxiliary President or her representative has a permanent invitation to our Board meetings. Her attendance has exceeded some of the Board members to date.

I am also considering any contributions the voluntary health agencies might have for the good of the Society or the Society for the good of the voluntary health agencies.

As usual, we will have many problems, and with everyone's help, I sincerely hope that this coming year will be a productive one.

Joseph A. Elliott, M.D.

New Members

Neil Arthur de Leeuw, M.D., a graduate of Baylor University College of Medicine, '64, is a Board-certified Plastic and Reconstructive Surgeon. He interned at Ben Taub General Hospital, Houston, Texas and served his residency at Louisiana State University Medical Center. Dr. de Leeuw's office is at 1401 Pennsylvania Avenue, Wilmington. He is a member of the American Cleft Palate Association and the Industrial Medical Association. Dr. and Mrs. de Leeuw have two young children and reside in Wilmington. His hobbies include scuba diving and photography.

Carl T. Opderbeck, M.D., a graduate of Princeton University and Hahnemann Medical College, '65, served his internship at West Jersey Hospital, Camden, New Jersey and his residency at Norfolk General Hospital. He practices Obstetrics and Gynecology at 1401 Pennsylvania Avenue, Wilmington and is Board-certified. Dr. Opderbeck and his wife and two children live in suburban Wilmington. He is an avid sports fan and plays golf.

Ghassem Vakili, M.D., a graduate of Tehran University, served his internship at St. John Hospital, Detroit, Michigan and his residencies at Mercy Hospital, Baltimore, Maryland and Wilmington Medical Center. Dr. Vakili practiced medicine in his native Iran. His specialty is Obstetrics and Gynecology, and his office is at 325 E. Main Street, Newark. Dr. and Mrs. Vakili and their son reside in Newark.

Jerry L. Case, M.D., a Board-certified Orthopedic Surgeon, was graduated from the University of Iowa College of Medicine, '60, and served his internship at Good Samaritan Hospital, Phoenix, Arizona before entering the US Navy. He served residencies at the US Naval Hospital in Philadelphia and at A. I. duPont Institute. His office is in the Professional Building, Wilmington. He is a member of the American Academy of Orthopedic Surgeons and Alpha Omega Alpha. Dr. Case and his wife have nine children ranging in age from teenager to toddler. He is interested in all sports and plays tennis and golf.

In Brief

Speakers on "Ask the Doctor"

Speakers for November 1972 on the Tuesday radio program (11:05 A.M., WDEL) produced by the Medical Society of Delaware are: November 7, Edward Krieger, M.D., *Heart Failure;* November 14, Robert Brereton, M.D., *Gout;* November 21, Ted Chronister, M.D., *Hyperactivity;* Gerald Savage, M.D., *Acupuncture.*

In the News

New officers for the Sussex County Medical Society are: *Daniel Alvarez, M.D.*, Seaford, President; *Thomas E. Dyer, M.D.*, Milford, Vice President; and *Palmarin C. Francisco, M.D.*, Seaford, Secretary-Treasurer. *C. E. Graybeal, M.D.*, has been elected to the Board of Trustees to replace *John W. Howard, M.D.*, whose term has expired.

A. Yvonne Russell, M.D., Deputy Director of the state Division of Public Health, has been appointed to the National Advisory Allied Health Professions Council of the National Institute of Health. She is one of sixteen members of the council and will serve until 1976.

Maynard H. Mires, M.D., state public health physician, has been designated to receive the 33rd Degree, highest degree in Freemasonry. He will receive his degree at the Supreme Council of the Ancient Accepted Scottish Rite meeting next September in Detroit.

H. Thomas McGuire, M.D., of New Castle, received a special citation of merit from the Wilmington Council on Alcoholism at their second annual Conference on Alcoholism. This award was in recognition of his outstanding services over the years in fighting alcoholism. At the same conference, Mrs. Wilhelmina Miller, executive director of the Wilmington Council on Alcoholism, said that alcoholism is the most abused drug in Delaware. From the standpoint that each alcoholic affects the lives of five others, approximately 160,000 Delawareans are adversely affected by the drug.

Allen L. Davies, M.D., was inducted as a new Fellow of the American College of Surgeons during the annual five-day Clinical Congress (October 2-6, 1972) of that organization.

Medicare's Advisory Council

Secretary Richardson has designated *James R. Cowan, M.D.*, New Jersey State Commissioner of Health, as the new Chairman of Medicare's Advisory Council to succeed Charles L. Schultze, whose term expired.

The new members appointed to the Council for four-year periods, are: *James R. Feild, M.D.*, in the private practice of neurosurgery, and an Assistant Professor of Anatomy at the University of Tennessee; *Laura Larson, R.N.*, coordinator of Nursing and Allied Health in the Mountain States Regional Medical Program of the Western Interstate Commission on Higher Education; *Stanley A. Miller*, Vice President and Board Member of the Penn American Corporation and the Quaker State Life Insurance Company; *Anne R. Somers*, Associate Professor, Department of Community Medicine, College of Medicine and Dentistry of New Jersey at Rutgers, and Research Associate, Industrial Relations Section, Princeton University.

Members of the Council, in addition to the four new appointees, are: *Carl E. Anderson, M.D.*, Clinical Professor of Orthopedic Surgery, University of California Medical School; *Melnea A. Cass*, Chairman, Community Service, Massachusetts State Federation of Women's Clubs; *G. Robert Cotton, Ph.D.*, President and Chief Administrative Officer, Cedar Knoll Rest Home, Inc., Grass Lake, Michigan; *Leonard W. Cronkite, M.D.*, General Director of the Children's Hospital and Medical Center, Boston, Massachusetts and Lecturer in Preventive Medicine, Harvard University Medical School; *Nelson H. Cruikshank*, President, National Council of Senior Citizens, Inc.; *Monsignor James H. Fitzpatrick*, Executive Assistant for Government Relations for the Hospital Association of New York State; *Oscar E. Gutierrez, D.O.*, Director, Davila Medical Center, San Antonio, Texas; *Edwin H. May, Jr.*, President, May, Potter, and Murphy, Inc., Hartford, Connecticut; *William S. McNary*, Retired President, Michigan Blue Cross; *Sherwin L. Memel, J.D.*, Attorney at Law and consultant in health law and economics; *Jay S. Reibel, M.D.*, Resident in Psychiatry, Mt. Sinai Hospital, New York City; *Ernest W. Saward, M.D.*, Associate Dean, University of Rochester School of Medicine and Dentistry; *J. Minott Stickney, M.D.*, Professor of Clinical Medicine, Mayo Foundation and the University of Minnesota, and Program Coordinator of the Regional Medical Programs for the Northlands Region; *Harlan Thomas, M.D.*, General Practice of medicine.

New Computer Speeds Medical Library Service

Practicing physicians who want the latest published information about virtually any clinical subject now can research it by telephone, thanks to MEDLINE, a new computerized service of the National Library of Medicine. All the physician needs to do is place a telephone call to the nearest Regional Medical Library or MEDLINE center, from which his request can be fed into the computer. MEDLINE allows almost instantaneous searching of more than 400,000 citations from medical journal literature. A bibliography on his requested subject will be relayed to the physician by telephone (if speed is essential and the number of citations is relatively few), or mailed to him. Then, armed with the bibliography, he can easily ask for pertinent material from his nearest medical library. If the local library is unable to provide the information, the Regional Medical Library may arrange to mail copies of literature to him so that further inquiry is unnecessary.

The physician's expense is minimal — sometimes only the cost of the initial phone call.

To research a complex, multifaceted subject, the National Library of Medicine recommends that physicians visit the nearest Regional Medical Library in person to secure the most complete bibliography possible.

Inquiries for bibliographies through MEDLINE should be directed to: Library of the College of Physicians, 19 South 22nd St., Philadelphia, Pa., 19103. Librarian, Elliott H. Morse; RML Director, Carol C. Spencer: (215) 561-6050.

AMA Opposes Professional Standards Review Organization

The American Medical Association has adopted a stand against legislation pending in Congress which would require the establishment of Professional Standards Review Organizations on a nationwide basis.

A report which was adopted by the AMA House of Delegates in June called the proposed amendment (No. 823) to HR 1 a "compulsory approach which is contrary to true peer review and which could lead to the mechanization of practice and be detrimental to the delivery of quality medical care."

The action points up the immediate importance of physicians becoming active in local voluntary peer review organizations.

Medical Licensure

Another 12,257 licensed physicians were added to the US medical profession in 1971, the largest increase in newly licensed physicians in any one year in the history of US medicine. Of the 12,257 new physicians, 4,314, or more than one-third, were graduates of foreign medical schools, reflecting for the fifth consecutive year a substantial increase in the number of foreign physicians. As of December 31, 1971, there were 345,000 physicians in the United States, a net gain of 7,775 licensed physicians from the same date a year earlier after physician losses due to deaths, retirements, and return of foreign graduates.

New York State again had the greatest number of new physicians receiving their first license, 1,434. California and Pennsylvania followed. A total of 1,397 licenses were issued to osteopathic physicians in 1971.

The report was compiled by the AMA staff under the supervision of Henry R. Mason, MPH, the 70th annual report on medical licensure statistics, June 19 issue of the Journal of the AMA.

Father Flanagan's Boys' Home

Father Flanagan's Boys' Home has expanded its service to include Boys Town Institute for the Study and Treatment of Hearing and Speech Disorders in Children.

Disease processes falling within the scope of the Boys Town Institute will include hearing loss — sensorineural and conductive, both congenital and acquired; deformities of the lips, palate, ears, tongue, mandible, face, larynx resulting in a deficit in the child's ability to communicate; and neurological disorders primarily affecting communication.

CLINICAL NOTICES AND MEETINGS

American Heart Association

The 45th Scientific Session of the American Heart Association will be held November 16-19, 1972, at tht Dallas Memorial Auditorium; the Annual Assembly, November 19-20, 1972 at the Fairmont Hotel, Dallas; and the 26th Annual Meeting of the Council on Arteriosclerosis, American Society for the Study of Arteriosclerosis, November 17-18, 1972 at the Adolphus Hotel, Dallas. Contact American Heart Association, 44 East 23rd Street, New York, New York, 10010, for registration forms and booklets.

AMA Committee on the Medical Aspects of Sports

The 14th National Conference on the Medical Aspects of Sports will be held at the Sheraton-Gibson Hotel, Cincinnati, Ohio, on November 26, 1972. For further details, write to Committee on the Medical Aspects of Sports, American Medical Association, 535 North Dearborn Street, Chicago, Illinois, 60610.

Louisiana Thoracic Society

The 9th Annual Postgraduate Course for Physicians on "Pulmonary Function in Health and Disease" will be held in New Orleans, December 4 through 7, 1972. Course programs, application forms, and hotel information are available from the Louisiana Thoracic Society, Suite 1504, 33 St. Charles Avenue, New Orleans, La., 70130. W. Findley Raymond is the course coordinator.

The 2nd Annual Pediatric Course for Physicians on "Pediatric Pulmonary Function and Disease" will be held in New Orleans on December 7, 8 and 9, 1972. Contact the Louisiana Thoracic Society at the above address for details.

American Academy of Dermatology The 31st Annual Meeting of the American Academy of Dermatology will be held December 2-7, 1972 at the Americana Hotel in Bal Harbour, Florida. Write to the American Academy of Dermatology, 2250 Northwest Flanders Street, Portland, Oregon, 97210, for further information.

Heart Association of Greater Miami The Twelfth Biennial Cardiovascular Seminar, Complications of Myocardial Infarction, will be held December 13-15, 1972, Miami Beach, Florida. For additional information, contact Marvin Meitus, M.D., Seminar Chairman, Heart Association of Greater Miami, 5080 Biscayne Boulevard, Miami, Florida, 33137.

CLASSIFIED AD SECTION

Advertisements under the Classified Ad Section are charged at the rate of 30 words or less, set solid. One insertion $4.00. Call the Journal office, 658-7596 for further information or placement. All advertisements are payable in advance. The Editorial Board reserves the right to edit copy. Closing date for new copy is the first of the month for inclusion in the current issue.

Classified advertisements of a professional nature are free to members.

HEMATOLOGIST - INTERNIST: Board Eligible. Graduated from New Jersey College of Medicine, 1965. Licensed in New York and California. Interested in institutional, group or associate practice. Available July, 1973.

GENERAL & VASCULAR SURGEON: Passed FLEX Boards (Maine) 1972. Board Certified 1969. Will be leaving active duty in the US Navy in March, 1973. Interested in associate or group practice. Available May, 1973.

INTERNIST: Board Eligible. Graduate of University of Virginia School of Medicine (1967). Senior resident at Charlotte Memorial Hospital, Charlotte, N. C. Licensed in Virginia and North Carolina. Interested in working in community of 20,00 to 50,000. Available July, 1973.

ORTHOPEDIC SURGEON: Specialty — Hand Surgery. Graduate of Tehran University School of Medicine 1965. Licensed in the State of Washington. Just completed Fellowship training in Hand Surgery with H. E. Kleinert, M.D., Louisville, Kentucky. Available immediately.

PHYSICIAN'S ASSISTANT: Will complete training to become Physician's Associate in December, 1972. Has strong public service background and desires position in community where medical personnel is scarce. Interested in clinic work or with individual doctor in general practice. Available January, 1973.

FOR RENT: Large 1st floor office (12-1500 sq. ft.). 1009 Park Place, Wilmington. Available January 1, 1973, for 1 or 2 physicians. Includes reception area, waiting room, 2 counseling rooms, 2 examination rooms, lavatory, laboratory. Will redo to suit tenant. $400/month. Contact John Gehret, M.D. 654-5814.

FOR RENT: Small office (900+ sq. ft.). Three consultation rooms, reception room, business office, secretary area. Ready for equipment. Heat, air conditioning, and light included. Parking. Call Dr. S. James Krygier, 1700 Wawaset Avenue, 652-5000.

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PSYCHIATRIC EMERGENCY TREATMENT

• Psychiatric Emergency Treatment is one of the most important aspects of the total range of Mental Health Services. I hope to be able to explain why I feel that way.

V. Terrell Davis, M.D.

The continuous assimilation of new knowledge and new concepts is characteristic of a dynamic profession. This is particularly true of the psychiatric aspects of the practice of medicine even though it may be less dramatically evident than such developments as cardiac surgery and cancer cures. On the contrary, newer concepts in the medical management of psychiatric illness often eliminate the occurrence of dramatic incidents (homicide, suicide, and panic reactions).

Many of the most significant developments in the practice of psychiatry in recent years have been incorporated in psychiatric emergency treatment. Jack Wilder, M.D., Acting Director of the Department of Psychiatry of the Bronx Municipal Hospital Center, New York City, told a session of the Institute on Hospital and Community Psychiatry in Seattle in September, 1971: "Hospitalization for two or three days in a unit attached to the Emergency Room will be the next important development in crisis intervention. This kind of brief hospitalization will supplant longer stays for many disturbed persons who come to the hospital emergency rooms."[1]

It is the purpose of this paper to review these significant developments and to consider their application in psychiatric emergency treatment as it is presently evolving.

See editorial comments on page 314

Recent interdisciplinary debate of issues related to the delivery of Community Mental Health Services has frequently focused on the importance of continuing to use the "medical model" for the delivery of service.

Humphrey Osmond has spoken of the cultural significance of the doctor-patient relationship.[2] For centuries the patient has found in his physician the knowledge, the skill, the compassion, the understanding, the confidentiality, the reassurance, and the strength that we all need in times of crises related to illness.

Knowledge is essential in determining the presence or absence of illness as well as the nature of illness and the proper medical treatment.

Compassion enables the physician to relate to the human person with a minimum of prejudice generated by the patient's behavior.

Dr. Davis is Director of Psychiatry, Wilmington Medical Center.

This presentation was made at the Wilmington Medical Center Conference, March 14, 1972.

Understanding reflects an ability to put himself in the patient's position to be better able to know the meaning of the patient's actions and words.

Confidentiality is a protection for the patient's identity, independence, and self respect.

Reassurance is a soothing of anxiety or even panic that is easily generated when individuals experience new or strange feelings, perceptions, or reactions and of the panic that can be relieved by knowledge or understanding of the meaning of these new experiences.

The physician gives *strength* through his willingness to shoulder the burden of responsibility for leadership in resolving the problem.

Because all of these attributes are implicitly anticipated in the physician, he is automatically endowed by the patient with a type of authority which Osmond calls Aesculapian authority and distinguishes from structural authority, which derives from special knowledge in a given field and from moral authority and great personal authority.[2]

Authority can be exercised only if those subjected to the authority recognize the authority endowment. Becoming a patient implies the acceptance of the Aesculapian authority of the physician; in the exercise of Aesculapian authority the physician can bestow the "sick role" on a patient. In our culture this carries special implications for the patient in his relations with others within his social network, which may be of great benefit in the course of return to effective functioning.

Richard J. Levy et al in describing program development at the San Mateo Community Mental Health Center in *The Handbook of Community Health Practice* state "An effective emergency service is essential to an effective community mental health program. Yet it is probably safe to say that emergency services are one of the weak links in the whole chain of Mental Health Services. Several factors are contributory. Programming of such services tends to be an extension of medical models, with little adequate definition of the problem, critical analysis of need, or measure of effectiveness . . . and a resultant lack in continuity of service and decision-making with responsibility assigned to the least experienced professional psychiatric residents."[3]

The Community Mental Health Center Policy and Standards Manual of the National Institute of Mental Health discussing the five essential elements listed in the federal legislation on emergency service states, "The emergency service of a Community Mental Health Center must provide immediate mental health care and evaluation for persons in crisis on a 24-hour-a-day, seven-day-a-week basis. There are two major components of the Emergency Service: face-to-face contact and a crisis telephone service."

Gerald Caplan, M.D., Director of the Laboratory of Community Psychiatry at Harvard, has said of community psychiatrists, "They . . . operate on the assumption that mental disorder is often caused by or aggravated by unhealthy forms of life adjustment, and that when it occurs there are many possibilities available to the sufferer, and the social network of which he is part, to modify their mutual relationships so that a healthier equilibrium will be obtained, which in turn will have a beneficial effect on the disorder.[4]

"The psychiatrist realizes that as one of the many helpful forces in the community, he should evaluate the others and then decide in accordance with each set of circumstances the amount of profit to be gained by his intervention . . . "

Sidney Garfield, M.D., Director of the Kaiser Foundation Health Plan and Hospitals, wrote in the Scientific American in April 1970 of "The Delivery of Medical Care."[5] For the most part he described the present operation of that program but also pointed to its greatest shortcoming, the need for some sort of health testing and referral service which would help the individual to know whether to seek medical services (sickness services or health services). The use of physicians to do all primary screening contacts was neither satisfactory nor efficient from the point of view of provider or consumer. In essence he was proposing a four-part program: 1) a Sick Care Center; 2) a Health Testing and Referral Service;

3) a Preventive Maintenance Service; and 4) a Health Care Center — for Supervision of the Chronically Ill, for Rehabilitation and Tertiary Prevention.

All but the first would be under the immediate direction of paramedical personnel with medical supervision. The Sick Care Center would have medical staff and paramedical assistance.

Reduced to the simplest elements I would define psychiatric emergency treatment as an immediate response by a physician with psychiatric competence to a call for help. The important thing is that we are talking about one component of a range of crisis intervention services, which primarily involves the physician.

The response of the physician includes 1) an assessment of the nature of the distress or threat; 2) initiation of appropriate action to prevent aggravation of the situation; 3) assessment of the assets, strength, and resources which should be exploited in relieving the distress or threat. (In the past there was a tendency in psychiatry to inventory the patient's liabilities. Now we are more concerned with listing and mobilizing assets.); 4) formulation of a plan of action that is pliant and which mobilizes all available palliative, restorative, and rehabilitative resources. There is nothing that will cut through confusion and panic like a plan of action.

In this conceptualization of psychiatric emergency treatment, although it is only one of several desirable resources for early intervention for persons in crisis, it is a keystone in the efficient operation of other mental health services and a key to public support of other essential services. If you don't have good psychiatric emergency treatment, patients are admitted to inpatient care: they are put into other systems, legal systems, which are much less efficient and which gain less public support for their continuation. Only psychiatric emergency treatment makes the full impact of Aesculapian authority available in the service of individuals in distress. Its effective use enables the physician to provide effective leadership in pursuing a course of action which avoids threats to civil liberties and human rights, which are inevitable when the intervention resorts to the application of structural authority, as when force is used in an attempt to impose control. But Aesculapian authority should not be invoked where it is not needed.

The Aims of Psychiatric Emergency Treatment

The aims of psychiatric emergency treatment may be listed as follows.

1. The management of anxiety in the patient, the family, the neighbors, the community, the physician himself, and the other members of the treatment team. The greater the element of anxiety, the more important it becomes to have the Aesculapian authority of the physician to intervene. It is amazing how individuals brought to an emergency room by police in a disturbed condition, when they see physicians and nurses present, become much less disturbed and the anxiety level of everyone goes down. The police are able to feel comfortable in releasing the restraints.
2. Tracking and identification of clues to the true identity of the problem while these clues are still vivid in the mind of the patient and before their meaning or significance has been obscured by a large number of interpersonal transactions.
3. The establishment of a therapeutic alliance.
4. Time-limited intervention which avoids anti-therapeutic dependence, which so frequently complicates a prolongation of the "sick role" of a "patient." If it is at all possible to avoid having to put a patient into the dependent position of an inpatient resident in a hospital, we have already made points in keeping the patient mobilized to manage his own affairs.
5. The mobilization of a treatment team.

Systems Theory

It is only recently that systems theory has been applied as a basis for conceptualization of the complex situations characterizing most crises in human affairs. Systems theory tells us that inevitably a change in one system will provoke a change in another system, and feedback from the latter may completely neutralize the change in the former unless the feedback can be altered or diverted. The fact of the involvement of several systems and the need for skilled intervention, sometimes simultaneously in several systems, is one basis for the development of treatment teams. The simplest such team is the physician and the patient. Unless there is a team relationship between the physician and the patient, there can be no therapeutic alliance. In the everyday practice of medicine this is obvious, but somehow in psychiatric practice there has been a tradition in the past that the patient was not able to be a member of the team and the physician had to speak for him. Except in rare instances psychiatric emergency treatment as proposed in this paper necessitates the physician assuming a role as a team member. Since the physician has a key role in psychiatric emergency treatment, he must be comfortable in that team role.

Generically a team is organized to perform some task or function which cannot be performed as effectively by one individual. Osmond describes the work of a team as "consisting of a series of functions ordered and coordinated toward an agreed and known end, working within certain rules imposed from outside and also imposed by the members or individuals who occupy particular roles relating to the performance of various functions.

"In a team it is prerequisite that 1) the goals should be understood and agreed upon; 2) the functions should be delineated; 3) each role holder should perform his function competently and so acquire prestige in the team; 4) the status or relationship between the role holders is nicely balanced. (The first thing to break down team function is people becoming unhappy with their role in the team because of status.)

"A team works as a group to achieve shared goals and purposes only 1) when goals have in fact been understood and agreed upon; 2) when the special competencies of each individual team member are accepted in a realistic way; 3) when each member has been accorded responsibility for his function and the status going with such responsibility.

"Status derives in part from the exercise of authority commensurate with the responsibility (nothing will undermine a person's status more than to be given responsibility and then to be denied the authority to make decisions necessary to meeting the responsibility) and in part from the perceived value of the functions to the team goals.

"Prestige is given for performing your own function to the very best — over and above the call of duty. You can have a good physician (high status, high prestige) or a lousy physician (high status, low prestige). Prestige and status are often confused.

"Team members then have a shared responsibility for the team achieving its goals. The responsibility varies with status. Those with highest status have most responsibility. Yet those who perform their functions best have highest prestige."[2]

Osmond's formulation does not address leadership roles in relation to team functions or team member roles. It has been my observation that many well conceived team proposals have run into problems of morale and failure for lack of recognition of the nature and duties of leadership and a failure to assign specific leadership responsibilities.

Anyone who has had leadership responsibilities knows that this is not synonymous with "being in charge," "commanding," or "issuing orders." Although the title of leader implies status from the use of the word in the context of "He led his team in points scored," the role of leader in a treatment team is a service role which can bestow prestige since the role is essential to the success of the treatment team.

I believe the Scriptures say, "The leader is one who serves."[8]

The Team Leader

It is necessary that responsibility for exercise of initiative in the implementation of the team function be assigned to one individual who can be held accountable. That person then becomes the team leader. This does not preclude any other team member from exercising leadership in terms of pointing the way to achievement of the team goals. Neither does it mean that the team leader is given authority to interfere in the decision-making of other members in the exercise of their assigned responsibility. It is the team leader's responsibility to see that goals are established and roles are assigned, but the decisions are made by the team members on the basis of their special competencies. In psychiatric emergency treatment the physician is most often the team leader. In other components of crises intervention persons other than physicians may more appropriately be the team leader.

The team leader's responsibilities and duties include recording of treatment goals, plans, and team member roles; coordination of the implementation of the treatment plan; necessary facilitation of continuity of care; monitoring of progress toward the treatment goals; and alerting team members to a need to review objectives.

Most of these are functions which usually are automatically assigned to the nursing service in a hospital. But since a primary aim of psychiatric emergency treatment is to prevent the need for inpatient treatment, it becomes of special importance to provide for flexibility in the assignment of treatment team leadership for individual patients.

What has been presented to this point has been focused on a non-residential program, but in selected situations a sound treatment plan may include brief intensive residential care. Such programs have been described in Colorado General Hospital by Rhine et al,[7] in the Bronx Municipal Hospital by Wilder,[1] and Thomas,[8] and others.

Wilder says, "We can say to someone who comes in a disturbed state to the Emergency Room: 'Come into a bed right here, sleep overnight. We'll see what's going on. Tomorrow we'll re-evaluate.' I think we'll see that many people we now admit to the psychiatric wards don't have to be admitted.

"If you establish, say, a three-day limit, you create a psychological set, you pace yourself, you mobilize everyone. Duration of hospitalization often is a reflection of some administrative expectation."[1]

"Often we hospitalize because no other alternative is in the program."[1] The Connecticut Mental Health Center set up an emergency treatment (inpatient) unit of seven beds. Five of these are used for three-day, time-limited, inpatient treatment on admission from the Emergency Room of the Yale-New Haven Hospital. 350 such admissions were reported in one year."[8]

Colorado General Hospital in 1968 established a "Crisis Ward" of 11 beds as part of the Emergency Psychiatric Service. Rhine and Myerson report,[7] "Admission is usually planned for three to seven days though there is no strict time limit. The same team that does the initial evaluation follows the patient through hospitalization and subsequent outpatient crisis therapy.

"The Ward philosophy is adapted from our approach to the crisis treatment of outpatients. The basic principles are: 1) limited goals, with emphasis on "here and now;" 2) immediate formulation and planning; 3) focus on termination from the beginning; 4) involvement of significant others; 5) flexibility; and 6) team approach.

"Our focus is on the immediate stress; long-standing problems are explicitly avoided. Planning and clarification of goals is begun, even before admission, and is reviewed daily with the patient and staff. Hospitalization is presented not as a 'cure,' but as a first step in treatment . . .

"Crisis therapy is demanding work, involving many resources, and requiring decisions on minimal information without the leisurely approach of a traditional hospitalization. It is more than an individual therapist can handle. Working as a team allows sharing not only the workload but, even more importantly, the anxieties that such work entails." Langsley et al[9,10] reported an 18-month follow-up of a Colorado Hospital Study of an outpatient family crisis therapy approach as an alternative to hospitalization for those in a family, and who were deemed hospitalizable by traditional criteria. They reported on the basis of a random selection that those not hospitalized did better than those that were."

Avoiding Involuntary Hospitalization

It is too early to state to what extent the need for provisions for involuntary hospitalization for mental illness can be reduced. Nevertheless, for the present our interest in better mental health service for people in crisis will be best served by viewing each involuntary hospitalization as a possible indication of weakness in the development of psychiatric emergency treatment. In checking for weaknesses answers to the following questions will be most informative:

1. Was there an adequate assessment of the nature of the crisis?
2. Was appropriate action initiated to prevent aggravation?
3. Was there an assessment of the strengths and resources available within the individual, his family, and the community?
4. Was a treatment plan formulated at the outset and modified appropriately?
5. Did the management of anxiety in the patient et al leave something to be desired?
6. Was the Aesculapian authority of the physician maximally invoked?
7. Was a treatment team mobilized?
8. Did the treatment team function with good morale?
9. Did the treatment team focus on the establishment of a therapeutic alliance as a first order of priority?
10. Did the treatment team display adequate concern for civil liberties, human rights, and the avoidance of humiliation or dehumanization?
11. Did the team focus on the identification of transference or counter transference phenomena in developing an identification of problems and in the management of anxiety?
12. Did the team focus carefully on clear identification and confirmation of problems before outlining solutions?
13. Were the patient and significant others included from the first as members of the treatment team?
14. Was a basic philosophy of psychiatric emergency treatment understood by the staff members of the treatment team and made explicit to the patient and significant others?
15. Were physical facilities, including overnight beds, available to the psychiatric emergency treatment team so that immediate intensive treatment could be carried out without interruption for formal hospital admission?
16. Was the treatment team required to consider unresolved problems of fiscal reimbursement in formulating treatment plans?
17. Were there indigenous non-professional team members to assist in communication between the patient and the professional team members?
18. In brief, did the psychiatric emergency team have all the resources it needed?

Summary

We have discussed

The special nature of the authority of physicians.

Psychiatric emergency treatment as a special form of service for persons in crisis, which embodies a key role for physicians with psychiatric knowledge and skills.

The fact that a psychiatrist can have available to him a number of options in addition to that of his personal therapeutic intervention.

The current concern over the delivery of health care and over the most effective and efficient use of the time and the skills of physicians.

The similarity between crisis intervention and problem solving as practiced in good administration. Both involve identification of the problem, identification of available resources, formulation of a course of action, and development of resources.

Potential for the application of systems theory in the management of crises in individual human affairs, which becomes important when we think of an individual in a social setting with certain symptoms rather than thinking of the individual and his symptoms as if they were in isolation.

A concept of a psychiatric emergency treatment team which includes the patient and significant others, which sets goals, assigns roles to individual team members, designates a leader to serve the team, and thus aids in the achievement of the goals formulated in the treatment plan.

The role of leader as that of a guide, resource distributor, and coordinator — a service role rather than a decision maker, commander, or dictator.

Innovative uses of time-limited residential care in facilities staffed by the psychiatric emergency treatment team.

We have outlined the parameters of psychiatric emergency treatment as it is evolving by a series of questions in order to emphasize the importance of asking enough questions to obtain an accurate description of a problem before proposing solutions. With the high level of anxiety often present in psychiatric emergencies there is apt to be a sense of urgency, but the decisions which must be made with regard to the individuals involved are too important to be made without all pertinent information which may be available if it is sought.

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SUSCEPTIBILITY OF GROUP A STREPTOCOCCUS TO TETRACYCLINE

The tetracycline antibiotics are commonly used in the treatment of respiratory infections. A significant number of the strains of group A streptococcus are resistant to the tetracycline antibiotics. The clinician should obtain a pretreatment throat culture if streptococcal infection is suspected.

Ronald Wapner, M.D.

Infections of the tonsils and pharynx due to group A streptococci are commonly seen in clinical practice. Prevention of the sequelae of such infections requires proper treatment.

Penicillin is the drug of choice for streptococcal infections, but at times it is necessary to utilize other antibiotics such as erythromycin and lincomycin.[1] Tetracyclines should not be used routinely for streptococcal infections but are commonly employed in the treatment of respiratory infections.

In 1954, Lowbury and Cason reported the first isolation of a group A streptococcus resistant to tetracycline.[2] Since this initial isolation, various centers have reported tetracycline resistance in as many as 44% of this group of streptococci.[3,4] A recent report in

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Lancet indicates that the occurrence of tetracycline-resistant streptococci may now be on the decline.[5] The following study was designed to determine the antibiotic susceptibility of clinical isolates of group A streptococci in the state of Delaware.

Methods

One hundred three strains of group A beta-hemolytic streptococci were isolated by culture and grouped by the fluorescent antibody (FA) technique in the Streptococcus Section, Infectious Disease Research Laboratory of the Wilmington Medical Center.* These organisms were obtained from throat swabs submitted from throughout the state of Delaware. Presumptive classification into Lancefield group A by the FA technique was confirmed by sensitivity to a bacitracin disc. *In vitro* susceptibility of these strains to penicillin, erythromycin, tetracycline, chloramphenicol, cephalothin and clindamycin was determined by the disc-agar diffusion method of Bauer and Kirby.[6] Tetracycline-resistant strains were also tested for susceptibility to minocycline. Minimum Inhibitory Concentrations (MIC's) were performed on all tetracycline-resistant strains, using both tetracycline and minocycline. Bacteriostatic and bactericidal levels were determined by subculture of the MIC tubes to blood agar.

Results

Seventeen of the 103 strains tested were resistant to tetracycline while none of the isolates were resistant to the other antibiotics tested. (Table 1) The 17 tetracycline-resistant strains were also resistant to minocycline.

The MIC's of the 17 resistant strains are given in Table 2. While this technique confirms the resistance identified by the disc-agar diffusion method, it should be noted that minocycline is more effective *in vitro* than tetracycline.

Discussion

The existence of group A beta-hemolytic streptococci resistant to tetracycline has been recognized for many years.[2–4] The percentage of these resistant strains varies with location and time. Therefore, it is important to determine the antibiotic sensitivities of prevalent strains in a geographical area.

Since 17% of the group A streptococci recently isolated from patients in Delaware were resistant to tetracycline, the disadvantage of using this antibiotic is obvious. The other commonly used antibiotics continue to be 100% effective *in vitro*. Penicillin continues to be the drug of choice in treating streptococcal infections.[1] When penicillin is contraindicated erythromycin is the most popular alternative. Lincomycin and clindamycin are likewise effective agents with undesirable gastrointestinal side effects occurring less commonly with the newer analog, clindamycin. Cephalexin is as effective as penicillin in the treatment of streptococcal infections,[7] but price prohibits routinely substituting it for penicillin, and possible cross-allergenicity restricts its use as an alternative in penicillin-allergic patients. Chloramphenicol toxicity outweighs the usefulness of this antibiotic in streptococcal infections.

Since streptococcal pharyngitis cannot be

Table 1

Percent of 103 Strains of Group A Beta-Hemolytic Streptococci
Resistant to Various Drugs

	Penicillin	Tetracycline	Erythromycin	Chloramphenicol	Cephalothin	Clindamycin
% resistant	0%	17%	0%	0%	0%	0%

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*Supported by a graint-in-aid from the Delaware Heart Association.

Table 2

MIC's of 17 Group A Beta-Hemolytic Streptococci Resistant to Tetracycline and Minocycline

Concentration of Antibiotic in mcg/ml	100	50	25	12.5	6.25	3.12	1.56	0.79	0.39
# of strains with above MIC:									
Minocycline		2	6	4	2	2	1		
Tetracycline	4	8	5						

diagnosed easily by clinical appearance alone, the blind use of tetracycline in the treatment of acute upper respiratory tract infections is not justified.[8] When the diagnosis of streptococcal infection has been confirmed by culture, tetracycline should not be used without knowledge of the susceptibility of the infecting organism.[9]

In this limited study, minocycline, a derivative of tetracycline, was not significantly more effective against group A streptococcus than the parent drug. This reconfirms the observation of Eickhoff and Finland[10] that the activity of all formulations of tetracycline against group A streptococci is about the same. Therefore, although this new tetracycline has a broader spectrum (particularly against tetracycline-resistant staphylococci) than tetracycline, this does not apply to the streptococcus.

Summary

On hundred three strains of group A beta-hemolytic streptococci were isolated from clinical material at the Wilmington Medical Center. Seventeen of these strains were found to be resistant to tetracycline. All strains were sensitive to penicillin, erythromycin, chloramphenicol, cephalothin, and clindamycin, MIC's of the tetracycline-resistant strains confirmed this resistance. MIC's were also performed for a tetracycline analog, minocycline, showing a resistance pattern similiar to tetracycline. The clinical implications of these findings are discussed.

This study was conducted in the Infectious Disease Research Laboratory of the Wilmington Medical Center, Wilmington, Delaware, under the direction of W. J. Holloway, M.D., while Dr. Wapner was a medical student.

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ANOTHER LOVE (BIRD) STORY

Psittacosis showed a slight rise in the United States last year with 57 human cases reported to the Communicable Disease Center compared to 45 the year before. More than half of the victims were owners of pet birds; about one-fourth were dealers or breeders. Five patients caught their disease from infected fowl, chicken and turkeys. But it gives us great pleasure to report that only one person got psittacosis from a lovebird.

Highlights

THE INTENSIVE CARE UNIT: ITS ORGANIZATION AND MANAGEMENT

James P. Aikins, M.D., *Senior, Department of Anesthesiology, Wilmington Medical Center. Presented at Milford Memorial Hospital, September, 1971.*

Intensive Care Units (I.C.U.'s) had their beginnings following World War II when physicians and surgeons saw the benefits of the recovery rooms. Specialized I.C.U.'s such as coronary care units, respiratory care units, burn units, neuro-surgical units, and pediatric units followed the development of the generalized I.C.U. Concepts of I.C.U.'s are evolving constantly, and both the lay and medical community have come to expect them today.

The I.C.U. should be organized and operated under the direction of an I.C.U. Committee. This should be a committee of the medical staff representing at least major clinical departments with administrative and nursing service members. No single specialty or department should be considered automatically responsible for I.C.U. Although the ultimate responsibility for functioning of an I.C.U. and making policy lies with the Medical Board, it is impractical for the most part to have a committee administer operational policy on a day-to-day basis. This is best accomplished by an individual, either a member of the committee serving on a rotating basis or one individual appointed for a specific length of time.

There are several rules of thumb to decide upon the optimum number of service personnel, and this, of course, will vary with the objectives of the individual units and the relationship of the unit to the rest of the hospital. It is a generally accepted policy that the minimum need approximates one and one half nurses for each bed. Personnel should be assigned permanently to the I.C.U. The nursing care in this area of the I.C.U. is exacting and difficult, and if the census in the unit slacks off for a day or two, the nurses should be allowed a couple of less wearing days, rather than be re-assigned to another area in the hospital. Of course, all personnel working in the unit should have special training, which is provided by the doctors and nurse instructors most capable in their fields, and it must be of a continuing nature. It must involve all aspects of the care of the critically ill patient. Private duty nurses should not be allowed in the unit.

The unit should have specific rules and regulations, and it is preferable to have these in existence before establishing the unit rather than becoming a critical exigent when a crisis arises while in operation. With this in mind, any person requiring intensive care should be admitted upon the discretion of the attending physician. Certain types of patients such as disturbed mental cases, infectious or contagious cases, known terminal cases, etc., should not be admitted to the unit except under the most extenuating circumstances.

There are myriads of problems which occur each day in an I.C.U., but relatively speaking they are really no different from those which beset any other area of a hospital. One of the most difficult and pressing problems to solve is getting an acutely ill patient into the I.C.U. and transferring the less ill patient to another area in the hospital. The only solution to this is the understanding between the two attending physicians, even if it takes some "jawboning" and "eyeballing" to accomplish it.

Chronic shortage of help is just as common in the I.C.U.'s as in other areas of a hospital, but it presents itself as being much more acute because the patient, his family, and the attending physician have all come to expect that the I.C.U. delivers optimum, intensive nursing care. It is preferable to close some beds rather than provide inadequate care because of personnel shortage. As experience develops, one may find regular beds should be closed to staff I.C.U. beds.

One of the most sensitive areas of intensive care is the provision and maintenance of quality care provided by the responsible attending physicians. Quite clearly, not all physicians are conversant enough with techniques and equipment for truly intensive care. It is the responsibility and duty of the I.C.U. committee representing the major specialties to monitor the quality of patient care through constant review and evaluation of physician performance. It is realistic for a hospital to restrict or limit privileges with respect to the I.C.U. in the same manner as surgical privileges are limited. In other words, some physicians' privileges would require an automatic consultation with a specialist or more experienced physician on all patients admitted to the I.C.U. The development of the specialized intensivist is a recent effort to provide consultation and help in treating all the problems of the patient in the unit.

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TREATMENT OF NEUROLOGICAL DISORDERS SECONDARY TO ALCOHOLIC WITHDRAWAL AND BARBITURATE OVERDOSE

H. Richard Tyler, M.D., *Head, Section of Neurology, Peter Bent Brigham Hospital. Presented at Medical Grand Rounds, Wilmington Medical Center, May 18, 1972.*

Abrupt discontinuation of alcohol after chronic use results in several syndromes of interest to the clinician. Tremor is the most common. It is difficult to distinguish alcoholic tremors from familial tremor, the tremors of anxiety, and of hyperthyroidism. The motions are largely distal to the wrist, fine, consisting of lateral motions and flexion-extension motions of the fingers. Patients with tremors commonly feel anxious and restless. The tremors may last from one to three days and subside spontaneously. Prolonged tremors usually occur in patients with familial tremor.

Seizures associated with alcohol withdrawal have their onset starting about 12 hours after withdrawal with a peak incidence 24 hours and a total period of risk as long as three days. EEG changes may persist as long as six weeks.

The therapeutic agents for alcoholic seizures can best be prescribed by understanding the pharmacologic mode and duration of action of the agents in question. Diazepam (*Valium*-Roche) has no chronic anticonvulsant activity. Its usefulness is primarily for the seizure being witnessed which will usually stop anyway within three to five minutes. It is effective in children who are subject to status epilepticus. In adults with status epilepticus, alcohol as an etiology is unlikely, and the possibility of paresis or subdural hematoma must be strongly considered.

Diphenylhydantoin (*Dilantin*-Parke, Davis) therapy when prescribed in the usual oral doses of 300 mg/day requires five to seven days to achieve a therapeutic blood level, so p.o. treatment following an alcoholic seizure makes little sense. An I.V. loading dose will achieve saturation in eight to thirty-six hours but requires a total dose of at least 1000 mg given within a short period of time (24 hours). At this dosage level, staggering gait, or nystagmus may occur the day after treatment, but it is of little clinical importance compared to the need to treat life-risking seizures. Some therapists use higher doses of Dilantin I.V.

in order to achieve rapid and complete tissue saturation, but these should be used only by experienced therapists who are monitoring their therapy with drug blood levels. It is not recommended for general use in this manner. It is not uncommon for Dilantin to achieve a therapeutic effect at blood levels less than the concentration theoretically necessary. When an alcoholic who has had seizures is placed on long-term Dilantin therapy, there is an increased seizure risk. If he stops drinking, he is also likely to discontinue his Dilantin, which would make him even more likely to convulse.

Both paraldehyde and phenobarbital act rapidly, within 15 minutes, when given intramuscularly or orally. They are probably the best drugs to use for sedation of alcoholics. Intravenous use of these drugs is seldom necessary. Their use should be considered as prophylaxis against the next seizure, so I.V. use has little rationale and is more apt to add the additional complication of hypotension.

Amytal is a fine anesthetic, not an anticonvulsant. Precautions against glottal spasms are therefore required with readily available instruments and the know-how for intubation if the need arises; otherwise fatal accidents may occur. It should only be used by physicians who are capable of supporting an anesthetized patient and have the ability and facilities to intubate.

Every physician called upon to treat the various problems of alcoholism should become familiar with one or two drugs. It is also desirable not to have more than one person in charge of writing the orders for a patient with seizures. The ideal therapeutic plan is one which anticipates the next six or eight hours with the time for dosage changes and patient evaluation being planned to occur at the usual times for checking the patient, rather than in the middle of the night, etc. The physician needs to keep in mind what agent is wearing off and when and which agent is just achieving therapeutic effectiveness when he evaluates the patient or writes orders.

Another group of symptoms associated with the withdrawal of alcohol is the syndrome of delirium tremens. DT's usually occur two to three days after alcohol withdrawal but may occur even later, up to two to three weeks after withdrawal. Patients with DT's have global confusion, auditory and/or visual hallucinations (particularly of animals), fever, sweating, tachycardia, and insomnia. Any one of the above can occur without the presence of the other signs. The mortality with full syndrome of DT's remains about 20% with present therapeutic methods.

The patient with full blown DT's rarely sleeps; he suffers from acute and severe sleep deprivation. If six to seven hours of sleep can be provided by intermittent sedation, it is greatly to the patient's benefit. Too often patients with DT's are found dead in bed. Quite probably the terminal event is a cardiac arrhythmia; monitoring of these patients such as is done for patients with known heart disease would be highly desirable. It is also important to keep in mind the possibility of other illnesses, such as subdural hematoma, fractures of the cervical vertebrae, pneumonia, etc.

Barbiturate overdose can be treated in several ways. The Scandinavian experience reports the lowest mortality. They usually manage the patient with barbiturate overdose exactly as they would manage an anesthetized patient. Respiratory and circulatory support is provided while the patient sleeps off his drug, which may take as long as a week. Alternate methods of management which seek to increase the rate of barbiturate excretion are associated with less impressive mortality and morbidity statistics. Gastric lavage at the time of hospital entry is indicated only if the patient is still reasonably alert with an intact gag reflex; this usually means within one hour or less of drug ingestion. The level of CNS depression by barbiturates can be judged clinically. The cerebral cortex is the most vulnerable and when disordered is associated with the flexion posture of decortication. Further depression results in midbrain release and decerebrate extension posturing. Not until the medullary centers are affected are respiration and blood pressure affected. The absence of any lateral eye movements (ie, absence of eye motion in response to instillation of cold water into the external auditory canal) is evidence of severe midbrain and pontine dysfunction. Focal and pyramidal signs such as extensor plantar reflexes are seldom seen in barbiturate excess, and these signs should therefore alert the physician to the possibility of an alternate diagnosis. In the absence of medullary failure, all patients with overdoses of barbiturates should be salvageable if hypoxia is prevented. The differential diagnosis of hypoxic effects versus those of hypotension may be impossible. Pulmonary edema is the most common cause of death and appears to be mediated by central nervous system mechanisms as yet undefined rather than purely on a cardio-pulmonary basis. Premature prognostication regarding recovery in barbiturate excess overdosage should be avoided for it may be wrong; recovery even after flat EEG is possible. Blood levels of barbiturates may be misleading for they are often decreased to normal or only slightly elevated levels in the presence of persistent but not irreversible coma.

The EEG may be even more useful than the performance of barbiturate blood levels in the diagnosis of suspicion of chronic barbiturate ingestion. Fast spindling on the EEG may persist even two to eight weeks after discontinuation of chronic barbiturate use.

* * *

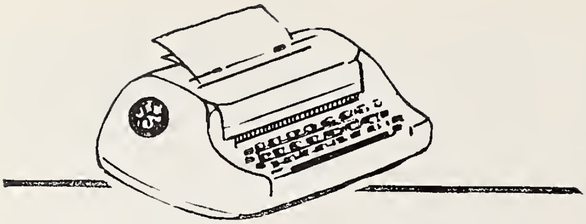
SCOTLAND YARD AND ITS BOBBIES: FRIEND TO "LESSER VILLAINS"

The attitude of the public toward their "Bobbies" is one of respect and pride. When it is necessary to impose a bit of discipline, the Bobby does not get a mouthful of words thrown back at him. And I think parents, by and large, bring their children up to believe the policeman is their friend and helper — which indeed he is. Only the villains fear Scotland Yard.

We make rather extensive use of lesser villains in ways I believe unique to Scotland Yard. This is in the prevention of heavy crime. Quite obviously, those citizens who would like to be of help, such as clergymen and bank managers, are not exposed to the kind of information that could be of substantive value to us. However, there are those petty thieves — pickpockets, purse snatchers and the like — who frequently do have an inkling of what an organized band of villains is contemplating.

Now suppose, an officer catches this man and he is sent up for, perhaps, two or three years. He may have a family, which the arresting officer looks up. If they happen to be destitute, the officer may make arrangements to pay the rent, make sure they are aware of their privileges under the National Health Scheme, and see to it that, at Christmastide, the family receives a goose or roast. The arresting officer, in effect, may become that family's best friend. When the villain's incarceration is over, he is under an obligation to that officer. Sometimes he is able to pay the obligation off by providing information which will be very helpful in anticipating an intended crime.

WHAT MAKES IT GREAT? a publication of Winthrop Laboratories. The author, Commander Frank Davies, is Commander of "The Flying Squad", New Scotland Yard.



Special Reports

REPORT ON 68th ANNUAL CONGRESS ON MEDICAL EDUCATION

Chicago, Illinois, February 3-6, 1972

This year there was no discernible central theme to the educational meetings, but, in general, the presentations could be classified into three broad topics: first, the education and training of young physicians, second, the maintenance of excellence in practicing physicians, and third, problems relative to other health professionals.

The Education and Training of Young Physicians

With the development of closer relationships between Osteopathy and Medicine increasing attention has been paid to the osteopathic education. In general, in the osteopathic schools, laboratories and libraries are not as well equipped as in the M.D. schools, but they are used more. The general content of education is similar in the two disciplines, and they use many textbooks in common. The academic average of entering osteopathic students is a little below the medical, but all are well within the acceptable range at M.D. schools.

Curriculum changes are still rampant throughout the country, and because of the gradual disappearance of the indigent patient, medical schools are coming to grips with the problems of using private patients for teaching. These problems are far from solved, but one salutory effect is that this is forcing a more compassionate and understanding attitude toward patients on the part of medical students, interns, and residents.

Hospital-House Staff relationships came in for some discussion, especially the continuing pressure from interns and residents for ever higher pay scales (including slow-downs, de facto strikes, and the formation of unions). Attention was called to the actions of the Insurance Commissioner in Pennsylvania in limiting the reimbursable portion of the patients' hospital bills to $3.50 per patient day for the cost of intern-resident programs.

Maintenance of Excellence in Practicing Physicians

A particularly thoughtful paper was presented on humanism in medicine, pointing out that medicine is "the most humane of the sciences and the most scientific of the humanities." This implies that there are two sides to the humanist-physician: the compassionate or affective side and the academic, educated or cognitive side. A good doctor must accept his patients as they are and deal with them with understanding and consideration. However, the ideal physician is an educated man and continues to educate himself all his life. To quote the speaker, "Nothing is so inhumane as incompetence." Perhaps it is this which motivates good physicians to stay abreast of new developments.

The evaluation of physicians by other physicians was the subject of a number of papers and discussions. A particularly successful system in Minneapolis has formed a foundation of which 96% of the physicians in the area are members. An example of their soft approach is this note which may appear on your patient's chart. "NOTE: As of 48 hours from now this chart will be reviewed. In this hospital 75% of patients with this diagnosis have been discharged by this date. Please have your chart notes up to date to justify the patient's continued stay." The movement across the country toward stricter peer review, re-certification, and mandatory post-graduate study continues.

Problems Relative to Other Health Related Professionals

In a different vein there was again discussion of the education of various health professionals including physicians' assistants. One of the major problems is still the lack of any standardized curriculum for many of these. Interesting is the concept of equivalency testing. This was hailed as "the emerging vehicle of career mobility." As the College Level Exam Program (CLEP), this has been in use among colleges for a number of years as a means of identifying and accrediting those worthy of a degree, with little regard for the amount of formal university study they have had. If this same thing can be developed for evaluating the competence and knowledge of health professionals, it may become possible for us to develop true professional mobility. For example, an LPN could become an RN without going all the way back to the beginning, or a Laboratory Assistant could become an accredited Medical Technologist. Needless to say there is a lot of resistance to this from entrenched professional groups; you may understand if you consider that by the same mechanism physician's assistants might become M.D.'s.

E. Wayne Martz, M.D.

Dr. Martz is Director of Medical Education at the Wilmington Medical Center.

THE PLUMMER-VINSON SYNDROME

A Cutaneous Manifestation of Internal Disease

The symptom complex of dysphagia, iron deficiency anemia, glossitis, and koilonychia has been known for over 50 years. The subject has been reviewed in the literature of internal medicine and otolaryngology, but has received little attention in dermatologic writings.

A middle-aged woman presented the chief complaint of a finger nail dystrophy and on investigation was found to have the Plummer-Vinson syndrome (PVS). Iron therapy, though rapidly effective in eliminating her anemia, only partially cleared the mucosal abnormalities of the PVS.

Factors causing the mucosal changes probably include abnormalities of tissue-respiratory enzymes due to prolonged iron lack. Close and prolonged observation of individuals with the PVS is required because of the increased incidence of gastrointestinal and upper respiratory carcinoma which may develop many years after the onset of the PVS.

Donald Schetman, M.D.

Dr. Schetman is a member of the Section of Dermatology, Department of Medicine, Wilmington Medical Center.

Adapted from Dr. Schetman's publication in the Archives of Dermatology, Vol. 105, May 1972.

* * *

JOSEPH PRIESTLEY ON OXYGEN TOXICITY

. . . from the greater strength and vivacity of the flame of a candle, in this pure air, it may be conjectured, that it might be peculiarly salutary to the lungs in certain morbid cases, when the common air would not be sufficient to carry off the phlogistic putrid effluvium fast enough. But, perhaps, we may also infer from these experiments, that though pure dephlogisticated air might be very useful as a *medicine*, it might not be so proper for us in the usual healthy state of the body: for, as a candle burns out much faster in dephlogisticated than in common air, so we might, as may be said, live out *too fast*, and the animal powers be too soon exhausted in this pure kind of air. A moralist, at least, may say, that the air which nature has provided for us is as good as we deserve.

Experiments and Observations on Different Kinds of Air, London, 1775.

Editorials

LEADERSHIP MEANS BEING IN CHARGE

The efforts of Dr. Terrell Davis to improve our psychiatric emergency treatment are to be commended. There is no question in my mind that prompt psychiatric attention for these individuals will do away with unnecessary admissions to the Delaware State Hospital.

Dr. Davis' article appears on page 299.

I would take issue, however, with Dr. Davis on the following theme. "Anyone who has had leadership responsibilities knows that this is not synonymous with 'being in charge,' 'commanding,' or 'issuing orders' . . . . the role of a leader in a treatment team is a service role . . . . it designates a leader to serve the team . . . . the role of leader as that of a guide, resource distributor, and coordinator — a service role rather than a decision maker."

I feel in his efforts to make the team happy, Dr. Davis is watering down the expertise of the psychiatrist and the rights of the individual. I agree with the team concept, but I feel that the leader of the team must be the psychiatrist and that he is responsible for the total patient treatment program. As much as I respect operating room nurses, I have never heard one explain to the thoracic surgeon how to do a wedge resection. In spite of how hard-working a nurse's aide may be, I have never heard one modify an internist's treatment of an addisonian crisis. I feel my analogy holds for the psychiatric emergency team also. The input from this team will be very helpful to the doctor and to the patient care, but the program, the treatment, and the major decisions must be made by the psychiatrist, the captain of the team.

With the arrival of physician associates and an expanded role for registered nurses, nurse's aides, and even volunteers, medical care in our country can be improved. In many areas there are not enough physicians, and in other areas not enough of the right type of physicians. So, additional help is necessary and will make for better patient care. In my experience, the treatment teams that work best and have an *esprit de corps* are those that have competence, coordination, and good leadership. I cannot imagine that the leader will not be, nor would I apologize for the fact that in medical areas the leader of the team must be, a physician.

W.J.V.

* * *

MEDICAL OATHS:

Who Swears What to Whom

"I swear by Apollo Physician and Aesculapius and Hygeia and Panacea . . . " So begins the original Hippocratic oath, still being used in the original or in some modified form in almost half of U.S. medical schools.[1] The other schools use either the Declaration of Geneva (24%), the prayer of Maimonides, or a home drawn version (30%). (Figure 1)

About a year ago, I sent off fifteen letters to as many national capitals inquiring if an oath was used in their land. I addressed my question to the Ministry of Education for Physicians (without of course knowing if there was such a ministry). My letters to the various health ministries were mailed in Florence. I am pleased to report that the U.S. Postal Service delivered a reply from Turkey despite its being addressed to me in Wilmington, Del., 19803, ITALY.

The British oath habits were detailed in a monograph issued by the public relations department of the British Medical Association in 1961. The Federal Republic of Germany replied that it had no official oath, as did Portugal. Turkey, Austria and Israel sent theirs. (Figure 1) The Israeli translation of their oath, sent to me from the Hebrew University-Hadassah Medical School in Jerusalem, differs slightly from the same oath as printed in the *American Medical News*.[2]

The Russians said yes, in Russian. (Figure 2) A translation of their oath is included in Figure 1.

Dr. Gunter Menk, a colonel in the Medical Corps, has suggested these six simple lines which seem to us to have great relevance to today's special medical dilemmas:

"As I become a physician, I pledge to strive toward these goals:

1. To continue with adequate post-graduate education.
2. To practice medicine always to decrease suffering.
3. To treat patients as I myself want to be treated.
4. To provide medical care to the underprivileged.
5. To be humble, tolerant, compassionate, conscientious, honest, and charitable in thought, word and deed.
6. To keep my patient's medical histories in confidence."[2]

B.Z.P.

FIGURE 1

MEDICAL OATHS: From Hippocrates to Present Day

ORIGINAL HIPPOCRATIC OATH (CA 400 B.C.)

I swear by Apollo Physician and Aesculapius and Hygeia and Panacea and all the gods and goddesses, making them my witnesses, that I will fulfill according to my ability and judgment this oath and this covenant;

To hold him who has taught me this art as equal to my parents and to live my life in partnership with him, and if he is in need of money to give him a share of mine, and to regard his offspring as equal to my brothers in male lineage and to teach them this art — if they desire to learn it — without fee and covenant; to give a share of precepts and oral instruction and all the other learning to my sons and to the sons of him who has instructed me and to pupils who have signed the covenant and have taken an oath according to the medical law, but to no one else.

I will apply dietetic measures for the benefit of the sick according to my ability and judgment; I will keep them from harm and injustice.

I will neither give a deadly drug to anybody if asked for it, nor will I make a suggestion to this effect. Similarly I will not give to a woman an abortive remedy. In purity and holiness I will guard my life and my art.

I will not use the knife, not even on sufferers from stone, but will withdraw in favor of such men as are engaged in this work.

Whatever houses I may visit, I will come for the benefit of the sick, remaining free of all intentional injustice, of all mischief and in particular of sexual relations with both female and male persons, be they free or slaves.

What I may see or hear in the course of treatment or even outside of the treatment in regard to the life of men, which on no account one must spread abroad, I will keep to myself holding such things shameful to be spoken about.

If I fulfill this oath and do not violate it, may it be granted to me to enjoy life and art, being honored with fame among all men for all time to come; if I transgress it and swear falsely, may the oppo-

PRAYER OF MAIMONIDES (12TH CENTURY)

Prayer of Maimonides (12th Century)

Thy eternal providence has appointed me to watch over the life and health of Thy creatures. May the love for my art actuate me at all times; may neither avarice nor miserliness, nor thirst for glory, or for a great reputation engage my mind; for the enemies of truth and philanthropy could easily deceive me and make me forgetful of my lofty aim of doing good to Thy children.

May I never see in the patient anything but a fellow creature in pain.

Grant me strength, time and opportunity always to correct what I have acquired, always to extend its domain; for knowledge is immense and the spirit of man can extend indefinitely to enrich himself daily with new requirements.

Today he can discover his errors of yesterday and tomorrow he can obtain a new light on what he thinks himself sure of today. Oh, God, Thou has appointed me to watch over the life and death of Thy creatures; here am I ready for my vocation and now I turn unto my calling.

DECLARATION OF GENEVA (1948)

At the time of being admitted as Member of the Medical Profession

I solemnly pledge myself to consecrate my life to the service of humanity;

I will give to my teachers the respect and gratitude which is their due;

I will practice my profession with conscience and dignity;

The health of my patient will be my first consideration;

I will respect the secrets which are confided in me;

I will maintain by all the means in my power, the honor and the noble traditions of the medical profession;

My colleagues will be my brothers;

I will not permit considerations of religion, nationality, race, party politics or social standing to intervene between my duty and my patient;

I will maintain the utmost respect for human life, from the time of conception; even under threat, I will not use my medical knowledge contrary to the laws of humanity.

I make these promises solemnly, freely and upon my honor.

OATH TAKEN WHILE RECEIVING THE DIPLOMA OF THE MEDICAL FACULTY, TURKEY.

As I now join the members of the medical profession I publicly and officially declare that I shall devote my life to the service of humanity.

I shall keep alive the respect and gratitude I owe my professors.

I shall practice my art with dignity and in accordance with my conscience.

I shall consider my patient's health my main concern.

I shall keep the secret of anybody who entrusts himself to me.

I shall protect the dignity of the medical profession and its noble traditions.

My colleagues shall be my brothers.

I shall not permit any consideration connected with religion, nationality, political party or social class to come between my profession and the patient in my care.

I shall have absolute respect for the human life from the very moment of its appearance in the mother's womb.

I shall not agree, even under threat, to use my medical knowledge against the laws of humanity.

I swear on my honour that I shall do all this officially, publicly and freely.

AUSTRIAN MEDICAL OATH

Now that you, honored doctoral candidates, have passed with distinction the examinations that are legally prescribed as proof of knowledge and skills for those who strive for the title and degree of doctor of medicine, you turn to us so that we can award you in this festive ceremony the title which you have been seeking.

First, however, you must take the oath always to prove yourself in such a manner as the title, which you will receive, requires and as we expect from you.

You will then swear

First, always to be loyal to this university, at which you attained the highest degree in medicine, and to support the purposes and goals of this university to the best of your ability;

Furthermore to keep pure and inviolate the title which I am about to award you and never in your life to besmirch it through loose morals or shameful acts;

Finally, to broaden the knowledge that you now possess through personal diligence and especially to follow all progress which this science (art) will make in the course of time; to use diligently your experience and your knowledge for the welfare and development of mankind; and finally to carry out all tasks that befall a real doctor with the same humaneness toward all;

This you will truly swear and promise.

(One of the doctoral candidates: I swear and promise.)

Now nothing else stands in the way of awarding you the title which you wish to receive.

In accordance with the authority granted me by law, upon the decision of my faculty, I therefore name you doctor of medicine, and I make you publicly known as such and grant you all the rights and privileges of doctor of medicine and the authority to practice the total healing art, and I hand to you as proof thereof this diploma stamped with the seal of the university.

(Translated by S. Corty)

THE OATH OF THE HEBREW PHYSICIAN (1952)

New Men of Medicine in Israel!

Ye stand this day all of you before your masters in the ways of medicine and in statutes.

That you should enter into covenant with medicine, to fulfill its laws with uprightness and with all your might and mind

That there may be established a generation of physicians worthy to do, and faithfully dedicated to succor the sick

And this is the covenant which I maketh with you this day saying:

> You are charged night and day to be custodians at the side of the sick man at all times of his need.
>
> You shall watch verily over the life of man even from his mother's womb and let his welfare always be your chief concern.
>
> You shall help the sick, base or honourable stranger or alien or citizen, because he is sick.
>
> And you shall seek to fathom the soul of the sick, to restore his spirit, through understanding and compassion.
>
> Do not hasten to bring forth judgment, and weigh your advice on a wise balance, tried in the crucible of experience.
>
> Be true to him who puts his trust in you. Reveal not his secret and go not about as a talebearer.
>
> And make wise your heart to the well-being of the many, to bring healing for the ailments of the people.
>
> Give honour and esteem to your teachers who have striven to lead you in the paths of medicine.
>
> Increase wisdom, and weaken not, for wisdom is your life and out of it are issues of life.
>
> Be heedful for the honor of your brothers as in honouring them you will yourselves be honoured.

The words of this covenant are most nigh unto you. They are in your mouths and hearts that you may do them and you will all answer — AMEN!

AMEN, SO WILL WE DO.

May your efforts to enhance the heritage of medicine in Israel grow and multiply.

(Formulated by L. Halpern, M.D., on the occasion of the graduation ceremony of the first medical course of the Hebrew University-Hadassah Medical

School, 1952; and translated into English by E. Davis, M.D.)

Physician's Oath of the Soviet Union

On receiving the high rank of a physician and entering upon the profession of a physician, I solemnly swear:

To devote all my knowledge and strength to the protection and improvement of the health of mankind and to the treatment and prevention of disease, to work wherever the interests of society demand;

To be at all times prepared to render medical assistance, to treat the patient attentively and solicitously, to keep professional secrecy;

Constantly to perfect my own medical knowledge and medical skill, to promote by my own labor the advance of medical science and practice;

To turn, should it be required by the interests of the patient, for advice to my fellows in the profession and never myself to deny them advice and assistance;

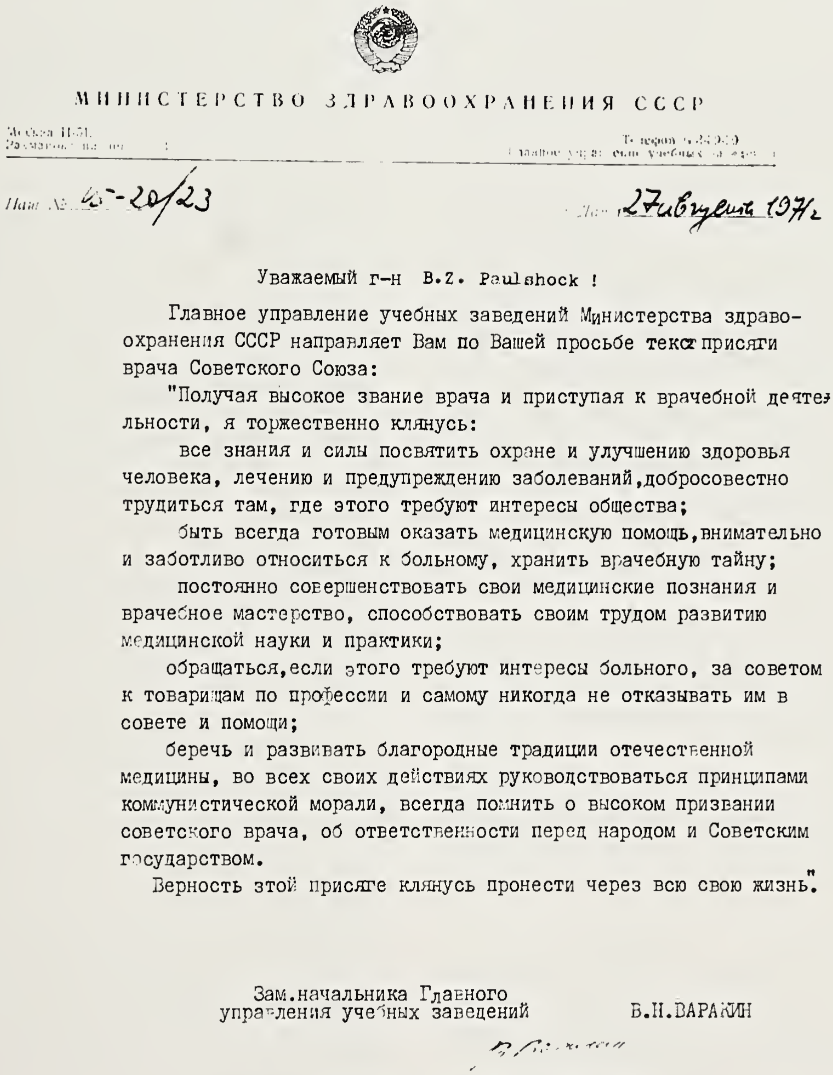
To cherish and advance the noble traditions of our native medicine, in all my actions to be guided by the principles of Communist ethics, always to bear in mind the high recognition of the Soviet physician, his responsibility toward the people and the Soviet State.

I swear to remain faithful to this vow throughout all my life. (Figure 2)

REFERENCES

1. "M.D. oaths — tradition vs. 'relevance'." American Medical News, August 16, 1971.
2. "Oaths for physicians." American Medical News, September 20, 1971.

FIGURE 2



МИНИСТЕРСТВО ЗДРАВООХРАНЕНИЯ СССР

Наш № 45-20/23

Дата 27 августа 1971 г

Уважаемый г-н B.Z. Paulshock !

Главное управление учебных заведений Министерства здравоохранения СССР направляет Вам по Вашей просьбе текст присяги врача Советского Союза:

"Получая высокое звание врача и приступая к врачебной деятельности, я торжественно клянусь:

все знания и силы посвятить охране и улучшению здоровья человека, лечению и предупреждению заболеваний, добросовестно трудиться там, где этого требуют интересы общества;

быть всегда готовым оказать медицинскую помощь, внимательно и заботливо относиться к больному, хранить врачебную тайну;

постоянно совершенствовать свои медицинские познания и врачебное мастерство, способствовать своим трудом развитию медицинской науки и практики;

обращаться, если этого требуют интересы больного, за советом к товарищам по профессии и самому никогда не отказывать им в совете и помощи;

беречь и развивать благородные традиции отечественной медицины, во всех своих действиях руководствоваться принципами коммунистической морали, всегда помнить о высоком призвании советского врача, об ответственности перед народом и Советским государством.

Верность этой присяге клянусь пронести через всю свою жизнь."

Зам. начальника Главного
управления учебных заведений   В.Н. ВАРАКИН

Physician's Oath of the Soviet Union

Book Reviews

ONE LIFE — ONE PHYSICIAN by Robert McCleery, M.D., Public Affairs Press, Washington, D. C., 167 pp.

No, *One Life — One Physician*, is not the latest of the midafternoon soap operas. Its subtitle, "Ralph Nader's Study Group Report on the Medical Profession's Performance in Self-Regulation," is much more to the point in setting the mood for the succeeding 167 pages. This particular Nader Study Group consisted of an M.D. (Dr. Robert S. McCleery, a former FDA official), a lawyer, two medical students, and one law student . Their research methods consisted of an exhaustive historical and topical literature review as well as personal interviews with leaders in the medical, paramedical, administrative, and political fields.

The first 157 pages of the monograph restate verities known to every physician. The need for peer group review, better medical records, and on-going education for physicians has been defined and examined by others. The medical profession's failure to provide standard medical licensure procedures is amply pointed out. This last point is particularly germane to the State of Delaware.

General conclusions reached by the study group are best expressed in their own words. "In the Preface, we stated that our study set out to discover what systems of quality control the profession has established to monitor each physician's service to his patients, to evaluate how well these systems perform, and to determine whether the profession merits the trust with which society has placed itself into the hands, and relied on the hearts, of all its physicians. We have had to conclude that the medical profession has failed to merit that trust." Their recommendations are:

1. Establishment of a National Board of Medicine appointed by the President and with jurisdiction over Federal Health Programs.

2. Development of standardized office and hospital record forms.

3. Setting of standards for treatment of disease states against which the performance of an individual physician would or could be compared.

4. Development of licensing standards for physicians and hospitals. This would include special licensing for general practice, family practice, and subspecialties, and would do away with carte blanche licensure.

5. Development of standards for physician re-examination to include relicensure examination every five years, and hospital and office practice review.

6. Expansion of the present causes of loss of licensure to include failure to participate in ongoing education programs and failure to refer patients with diseases out of the physician's sphere of licensure.

The book provides compelling reasons for adoption of many of these suggestions, particularly those concerning medical records and outdated licensure procedures. We as physicians best know our own frailties, and it is we who should become the activists in the sphere of self-regulation before we become the recipients of government regulation.

William A. Taylor, M.D.

CLINICAL DIGNOSTIC PEARLS by Jason C. Birnholz, M.D. with Paul E. Michelson, M.D., Medical Examination Publishing Company, Inc., 1971. Price $4.50.

Birnholz and Michelson began their pearl collection as medical sturents at Hopkins. An unmatched set of pearls it is indeed, containing as it does large, well-known gems, still worth repeating such as Hippocrates' "Life is short and art long . . . " as well as "Painful clubbing is usually secondary to a malignancy." I can picture Birnholz as an amused student copying down Bernard's 'The science of life is a superb and dazzling lighted hall which may be reached only by passing through a long and ghastly kitchen," along with, "Insomnia and disturbing dreams precede the development of overt psychosis in patients given high doses of steroids."

Dr. Victor McKusick who wrote the foreword suggests there is still a useful place, even after 2000 years, for "an aphoristic approach to medicine" providing one keeps a "hard-nosed attitude" towards pearls, that is, "the truth of the statement continually questioned and its quantitative significance sought."

This book makes excellent browsing, for philosophers ("Disease is from old and nothing about it has changed. It is we who change as we learn to recognize what was formerly imperceptible.") and pearl divers ("A right upper quadrant mass with a palpable edge must be liver.") Devotees of classical roundsmanship will read it cover to cover. Reasonably priced at $4.50.

BERNADINE Z. PAULSHOCK, M.D.

HEART ATTACK—YOU DON'T HAVE TO DIE by Christiaan Barnard, Delacorte Press, New York, 1971, 178 pp. Price $6.95.

The title of this book by a renowned author, who performed the world's first human heart transplant operation, led this reviewer to suspect that the publication would be primarily an appeal for support for this surgical approach to serious heart disease. This could not be further from the truth, for these 178 pages, contain a great deal of well-balanced information for both the layman and the physician in regard to the whole problem of atherosclerotic heart disease, together with a reassuring philosophical approach with an admixture of generous humor which makes the whole book a pleasure to read. The author describes the heart with the reverence due an organ which is "a superbly engineered device formed of muscles and valves and endowed with a hardiness that enables it to function efficiently and well under the most severe and varying circumstances." But at the same time, he recognizes that this marvelous organ is in a human being and states his approach to therapy: "The principal aim of the doctor should be to help the patient to achieve a physical and mental state of health that will enable him to indulge his own private concept of being alive."

He speaks of the limitations of our knowledge in regard to heart disease, and says that very often the medical knowledge that we have is general and not specific as applied to the individual patient. He asserts that the application of general knowledge to the management of a particular patient is and should be the sole and exclusive prerogative of the doctor, and states that we don't treat coronary arteries primarily, for it is the patient who is sacrosanct, not his heart.

The author reviews, in a very fair and unbiased way, all of the medical factors which are presumed to be part of atheromatous coronary artery disease, including heredity, environment, diet, smoking, national origin, stress, exercise, and all other factors usually considered in relation to this disease. He concludes by stating that the well-known risk factors include a family history of coronary heart disease, being a male, middle-aged, and a resident in Western society, subject to high blood cholesterol level, all aggravated by the existence of diabetes. He is not prepared to say that the risk factors of smoking, overweight, lack of exercise, and stress are as important as the former. He then asks what we should do about controlling these risk factors. He talks about a mass program through communication media and other channels to minimize these risk factors, but concludes that such an approach would be limited indeed, and that we would be guilty of a great folly if we allowed the family doctor to be displaced as the rightful custodian of the health of his patients, stating in addition that, "The measures to be adopted require an evaluation of the patient, his background, his environment, his aspirations, his commitments, his fears, and many other factors that make the difference between a man and a public health statistic."

The author describes the difference between the symptomatic heart disease, in which live heart muscle is objecting by a sensation of pain, and death of heart muscle forming a myocardial infarction. He describes the different types and extents of involvement and the medical treatment of the various forms of coronary artery insufficiency and myocardial infarction. In respect to this, he emphasizes the necessity for an organization that provides patients with emergency access to units where the appropriate facilities for continuous monitoring and care are available.

The last 50 or so pages are devoted to the various surgical approaches to coronary artery disease, dividing these approaches into two main groups, those designed to improve the blood supply to the heart muscle, and those dealing with the consequences of either localized or generalized death of the heart muscle. He discusses the place for transplanting arteries in localized coronary heart disease, the place of coronary endarterectormy, and, particularly, the importance of a vein bypass operation for all patients with coronary obstruction where there is a good distal vessel to accept the connection.

The final few pages are devoted to the area which has brought Barnard to renown, namely, human heart transplantation. He reiterates the well known limitation of this technique by saying that "the problem of rejection is by far the major obstacle to long-term successful cardiac transplantation." He believes that the problems of a mechanical heart for other than short-term functioning are so great as to be unrealistic for the foreseeable future, but that adequate money for research will lead to solutions to the problem of rejection and the other problems of the heart transplant procedure.

This reviewer believes that this is a book worth reading.

William O. LaMotte, Jr., M.D.

TEXTBOOK OF OBSTETRICS AND GYNECOLOGY, edited by D. N. Danforth, 2nd edition, Harper and Row, New York, 1971, 901 illustrations, 1199 pp. Price $35.00.

Dr. Danforth has accomplished his purpose of providing "in a single volume a comprehensive and authoritative synthesis of the current knowledge of obstetrics and gynecology." He has done this through an impressive list of contributors, some of whom have written their own texts on specialized areas. Although intended primarily to satisfy "the needs of the undergraduate medical student," the book is a valuable reference for resident and practitioner as well.

The introductory chapter, *Historical Highlights*, provides the reader with an understanding of the problems and solutions that led to the development of obstetrics and gynecology. The student gains a perspective of the place obstetrics and gynecology hold in the medical world from *The Patient* and *Obstetrics, Gynecology, and the Community.* The basic science chapters are well developed as background for clinical practice. The chapters, *Radiation Therapy in Gynecology*, *Operative Gynecology*, and *Chemotherapy of Gynecologic Cancer* add to the completeness of a text of this type.

Numerous graphs and tables contribute to the usefulness of this book as a reference. Although some chapters are sophisticated, many are somewhat superficial. Nevertheless, all chapters contain adequate documentation, and many have been written by physicians who have made classic contributions, such as Freda on Rh and Kistner on endocrinologic gynecology. The scope of the book is comprehensive. Students will find it readable and reasonably current.

Robert W. Egdell, M.D.

* * *

If the medical community would only speak out the citizens would be in much better shape. The physicians are a powerful group that politicians can't resist. When doctors speak, things happen.

Jacob Kreshtool, President of the Delaware Citizens for Clean Air.

President's Page

MPA AND PSRO

Perhaps until issues begin to develop as a result of several meetings of the Board of Trustees, it would be prudent to acquaint you with some of the problems that are certain to appear.

One that I hope can soon be finalized is the revision of the Medical Practice Act that has been diligently worked over for many months. Fruits of the Committee's labors are about to appear in final form for the Board's review. Since this requires legislative action, we would like it to get in the hands of legislators fairly early in the new session of the General Assembly.

Another is the Professional Services Review Organization (PSRO), which was signed into law as a section of H.R.1. I quote from the Declaration of Purpose: "In order to promote the effective, efficient, and economical delivery of health care services of proper quality for which payment can be made, in whole or in part, under the Social Security Act and in recognition of the interests of patients, the public, practitioners, and providers in improved health care services, it is the purpose of this program to assure, through the application of suitable procedures of professional standards review, that the services for which payment would be made conform to appropriate professional standards for the provision of health care and that payment for these services will be made (1) only when, and to the extent, medically necessary, as determined in the exercise of reasonable limits of professional discretion; and (2) in the case of services provided by a hospital or other health care facility on an inpatient basis, only when and for the period these services cannot, consistent with professionally recognized health care standards, effectively be provided on an outpatient basis or more economically in an inpatient health care facility of a different type, as determined in the exercise of reasonable limits of professional discretion."

Further, "it would be . . . the duty and function of each PSRO for any area to assume, at the earliest date practicable, responsibility for the review of the professional activities in the area of physicians and other health care practitioners and institutional and non-institutional providers of health care services in the provision of health care services and items for which payment can be made, in whole or in part, under the Social Security Act for the purpose of determining whether (a) the services and items are or were medically necessary; (b) the quality of the services meets professionally recognized standards of health care; and (c) in case the services . . . are . . . provided on an inpatient basis, the services . . . can, consistent with the provision of appropriate medical care, be effectively provided on an outpatient basis or more economically in an inpatient health care facility of a different type."

I have referred the PSRO to the Society's Peer Review and Professional Evaluation Committee and to the Delaware Foundation for Medical Care for their recommendations and assessment of how we must comply. We hope to have received some definite recommendations by early in 1973.

Committee appointments are about complete, and I would like to take this opportunity to thank those who have agreed to serve.

In the early part of 1973 I would like to have a joint meeting with the presidents of the three counties, the president-elect of the State Society, and the immediate past-presidents. The purpose of the meeting would be to hear first hand whether there are problems that the State Society should concern itself with. Perhaps also they would have ideas or goals that the State Society could help them achieve.

We will concern ourselves with how we can involve more new men in participation in the affairs of the society.

Joseph A. Elliott, M.D.

EARLY DELAWARE PHYSICIANS

Another Early Delaware Physician: DR. JOHN S. HILL

HARRIET DURHAM

In researching early Delaware physicians, there are two frustrations: more often than not Emerson Wilson got there first and secondly, the fearsome void in available records. Discovering that Dr. John S. Hill had not been investigated by anyone, the next hurdle was to ferret out what information remains.

The search (if you want a tip) takes one to the Eleutherian Mills Historical Library, the Wilmington Public Library, the Delaware Historical Society Library, the Hall of Records (Dover) and and, in this case ,the Friends Library at Swarthmore College. Some gaps are explained by the fact that although most records were taken to Dover in 1777, those remaining in the New Castle County Court House were destroyed by fire in 1824. A more human reason is pure indifference to future historians.

There is a record of a John Hill born in 1716 but it seems unlikely it is our man as he (ours) would then have married at the age of 57, hardly giving him sufficient years to father eight children. So we must begin with the premise he was born at an appropriate age. It is fact that he married Ann Hunt 1773-6-17 — that is the 18th century method of dating.

Although his life-work was presumably medicine, there is serious indication that some of his energies were expended elsewhere. He, presumably with Ann's help, fathered eight children, listed as such:

1774-3-18, James; 1775-11-19, John; 1777-3-29, George, d 1791-1-14; 1779-9-26, Isaac; 1781-4-23, Mary; 1784-12-13, Howard; 1787-8-1, Howard; 1789-11-21, Thomas. Although Howard #1 is assigned no premature death date, we must assume it was so. They persisted and replaced their loss with Howard #2.

There are repeated references — "see Wilmington Friends Records." The only record actually located states the marriage took place in 1770 and that nine children followed. His middle initial is not included. There is no record of the marriage taking place under the care of the Meeting. However, this seems a gap in records and little doubt that he was a Friend.

Our main interest, of course, is Dr. Hill's activities as a physician. Disappointment again. The only known fact is that he was one of the founders of the Medical Society of Delaware, incorporated in 1789, preceded by only one — the Massachusetts Medical Society.

A bit more of the man appears. In 1791 trustees were appointed for each county in the state to act in relief of the poor. An Assessment Roll of Baltimore Hundred shows a John S. Hill in 1785. Now in 1793, we find the trustees purchase from John Stephen Hill, "four hundred acres of land, a tract called 'Springfield' lying on White Creek, in Baltimore Hundred, which was by Maryland, patented April 4, 1684, to William Whittington and by numerous changes came to John S. Hill." Our man, indeed.

The goal was John S. Hill, physician. The result: John S. Hill, one-time Delawarean.

As Hill is not an uncommon family name, this treatise (in shallow — certainly not in depth) is perhaps an appeal — either for help or sympathy.

DELAWARE REGIONAL MEDICAL PROGRAM

The Delaware Regional Medical Program is now planning to become operational.

The program is developing objectives and priorities within the goals of RMP's generally. These are:

- Promote and demonstrate among providers both new techniques and innovative delivery patterns for improving the accessibility, efficiency, and effectiveness of health care, with emphasis on Primary Health Care and maintenance of health.
- Identify or assist to develop and facilitate the implementation of new and specific mechanisms that provide quality control and improved standards of care.
- Support training and encourage continuing education which results in more effective utilization of health manpower.
- Encourage the statewide regionalization of facilities, services, manpower, and other resources so that more appropriate and better care will be available to the citizens of Delaware at the local and regional levels.

DRMP welcomes grant applications for projects which will help meet these goals from:

- Public or non-profit private universities and colleges.
- Other public and non-profit private agencies and institutions.

To qualify for consideration for 1973 funding, applicants must submit letters of intent to DRMP. Additional information will be available soon.

Letters of intent must include:

1. Sponsoring agency.
2. A brief statement of what is proposed.
3. An estimate of how long the proposed activity will take to accomplish.
4. Documentation of need—a concise statement of the health problems the activity is intended to help solve.
5. Objectives. Identify in specific and measurable terms what is to be accomplished.
6. Plan of action. Spell out the methods to be used in meeting the proposed objectives.
7. Budget summary. A realistic estimate of the overall cost of the proposed activity for up to 12 months, including financial support requested from DRMP and from "other funds."

For further information, write or call:

Nasry Michelen, M.D., *Executive Director*
Delaware Regional Medical Program, Inc.
5 Reed Street, Dover, Delaware, 19901
(302) 678-9191

Delaware Academy of Family Physicians

NEWS IN BRIEF

AMA Physician's Recognition Award

Members of the Delaware Academy of Family Physicians are reminded that they must apply for the AMA Physician's Recognition Award in order to receive it. It is not automatically awarded. Even though Academy members are required to be recertified every three years, not one Delaware member was listed in Delaware's physicians who received the AMA Physician's Recognition Award this year. We are sure some of you were eligible to receive it, and we urge you to apply now for the 1973 Physician's Recognition Award.

AAFP Officers Named at Annual Meeting in New York City

James L. Grobe, a family doctor from Phoenix, Arizona, became president and Doctor James G. Price, Brush, Colorado, was named president-elect of the American Academy of Family Physicians in last-day sessions of the AAFP Congress of Delegates' annual meeting in New York City September 25.

Other officers elected by the 1972 Congress are: Doctor Louis Bush, Baldwin, New York, vice president; and Doctors Herb L. Huffington, Waterville, Minnesota; Frederic L. Schoen, Fort Wayne, Indiana; and Leo M. Wachtel, Jacksonville, Florida, members of the Board of Directors for a three-year term. Doctor Stanley A. Boyd, Eugene, Oregon, was named speaker of the Congress of Delegates, and Doctor William Y. Rial, Swarthmore, Pennsylvania, vice-speaker of the Congress of Delegates.

Family Practice Funds Go to 52 Hospitals under Manpower Act

According to figures from the HEW Division of Physician and Health Professions Education, 52 hospitals have received grants totaling $4,998,887 to establish family practice training programs under the Comprehensive Health Manpower Training Act.

More than 90 hospitals applied to receive funds from the $5 million available this fiscal year.

Those receiving the largest amounts were Howard University Hospital, Washington, D. C. ($216,000); Santa Monica Hospital Medical Center ($215,952), and Highland Hospital, Rochester, N. Y. ($174,451).

Tower Introduces Tax Incentive Plan

If the National Health Service Corps isn't the answer to health manpower shortage problems, more help may come from a bill introduced by Sen. John Tower (R-Tex.). The bill offers a five-year tax incentive to doctors, dentists, and optometrists who agree to practice in an HEW-designated manpower shortage area. At the end of the first year, for example, a doctor could lop $20,000 off his gross income when he filed his federal income tax return. The amount would decrease each year, down to $5,000 at the end of the fifth year. No exemption would be allowed if the doctor practiced in the area for less than two years. Senator Tower's bill has been referred to the Senate Finance Committee, but hearings have not yet been scheduled.

Here and There in Fewer Words

Of the 35,000 students now trying to enter medical school, only 13,000 will be accepted. One dean said that his school could (but won't) have a freshman class composed entirely of students who already have Ph.D. degrees. . . . Some experts say that by 1977 health care services will employ more people than any other US industry. . . . The recently launched AMA membership drive is getting results. In one recent week, 400 new members enrolled (after previously declining to join) and one state society has reported a 6 percent AMA membership gain.

In Brief

AMA Physician's Recognition Award

More Delaware physicians who received the 1972 AMA Physician's Recognition Award are Juan P. Gadea Rodas, M.D., and Yu-Jin Lee, M.D. of Wilmington; Frederic Kiechel, III, M.D., and Stephen King, M.D. of Dover; and Robert C. Kingsbury, M.D. of Seaford. (See September *In Brief* for others.)

Speakers on "Ask the Doctor"

Speakers for December 1972 on the Tuesday radio program (11:05 a.m., WDEL) produced by the Medical Society of Delaware are: December 5, Joyce Pearson, M.D., *Prevention and Early Diagnosis of Alcoholism;* December 12, Leonard Rosenbaum, M.D., *X-rays and Cancer Detection;* December 19, Norman Robinson, M.D., *Hearing Loss;* December 26, Paul Pennock, M.D., *Heart Attack.*

Board of Family Practice Exams

The American Board of Family Practice announces that it will give its next two-day written certification examination on October 20-21, 1973. It will be held in various centers geographically distributed throughout the United States. Information regarding the examination can be obtained by writing:

Nicholas J. Pisacano, M.D., Secretary
American Board of Family Practice, Inc.
University of Kentucky Medical Center
Annex #2, Room 229
Lexington, Kentucky, 40506

PLEASE NOTE: It is necessary for each physician desiring to take the examination to file a completed application with the Board office. Deadline for receipt of applications in this office is *August 1, 1973.*

Price Control and The Practicing Physician

In August 1971, President Nixon's Price Commission set 2½ percent as the top price increase allowable for physicians' fees, and required that a notice be posted in office waiting rooms concerning the availability of fee schedules. If Phase II lasts any length of time, the rising cost of supplies and services will force many physicians to apply for selective or over-all fee increases. If the proposed increases in fees raise the aggregate annual income more than 2½ percent above the base period (average of any two of the last three years prior to August 15, 1971), approval of the Price Commission must be secured. The physician must obtain an application form (IRS Form S-53) and then return the completed form to the local IRS for review before it is forwarded to the Price Commission for final decision. Precise accounting records and data collection methods should be used to document the request for increased fees. Th following information should be available to document the request: current fee schedule, recent previous change in fees, the proposed fee increase, gross and net income ,gross expenses, and estimated effect of the fee increases on gross and net income as well as on profit margin. The average number of services (house calls, laboratory procedures, etc.) performed during a stipulated period should also be listed with particular attention paid to items for which fee increases are requested. If the increase in fees raises the net profit margin when compared with the base period, it is probable that the application will be denied. Even if the increase is allowed, it will be an invitation for the IRS to audit tax returns.

Strep Detection Program

Effective December 1, 1972, the Delaware Heart Association's Strep Detection Program will be extended to the Sussex County Public School System. School nurses will be charged with the responsibility of taking throat cultures; forwarding them to the Infectious Disease Laboratory to determine the presence of Beta Hemolytic Strep; and for reporting positive cases to the student's parents, family physician, or public health facility in the event the student does not have a family physician. This community service is currently provided to all Delaware physicians.

Australian Doctor Discovers Relationship of Hormones and Menstrual Migraine . . . and Wins $1,000 Prize

Brian W. Somerville, M.B., Research Fellow in Neurology at Prince Henry Hospital, Sydney, Australia, won a $1,000 prize for the best paper on headache submitted in world-wide competition collected each year by the American Association for the Study of Headache. The Annual Wolff Award is named for the late Harold G. Wolff, M.D., Cornell College of Medicine, pioneer in the study of pain.

Doctor Somerville concludes that migraine appearing at the onset of the menstrual cycle is caused by the withdrawal of estrogen (estradiol or one of its components), which affects the reactivity of the arteries of the head and allows the migraine to occur. Withdrawal of progesterone seems to play little role in this process.

Clinical Center Studies of Tumor Antigens

The cooperation of physicians is requested in the referral of patients for studies of tumor antigens being conducted by the National Cancer Institute's Immunology Branch at the Clinical Center, National Institutes of Health, Bethesda, Maryland. Needed are patients who have:

1. A confirmed diagnosis of chronic lymphocytic leukemia.
2. Both biologic parents living.
3. A WBC count of 15,000/mm^3 or greater, if treated—although previously untreated patients are of particular interest.

Physicians interested in having their patients considered for admission to these studies may write or telephone: Howard B. Dickler, M.D.,Clinical Center, Room 4B18, National Institutes of Health, Bethesda, Maryland, 20014. Phone: 301-496-1376.

Expenses of the Aged

The average medical bill for a person 65 or older in fiscal year 1971 was $861, compared to $140 for a youth under 19, and $323 for a person between 19 and 64 years of age.

Public funds, mainly Medicare and Medicaid, covered two-thirds of the medical expenses of the aged.

Medicare paid 61.6 percent of the hospital expenses of the aged in 1971 and over 62 percent of the $3 billion spent for physicians' services to senior citizens.

The aged who make up only 10 percent of our population, the report notes, accounted for a one-fourth share of health expenditures of the national total of $65.1 billion spent for personal health care in 1971.

All the Medicare expenditures and almost half the Medicaid expenses are for persons aged 65 or over. Together these programs were responsible for 87 percent of the $12.1 billion in public funds spent for health care for the aged in 1971.

Medical Care Spending for Three Age Groups, May, 1972, *Social Security Bulletin.*

Booklet Available

Copies of a new brochure called *Facts About Plastic Surgery of the Ear* are available at cost to physicians. Write: American Academy of Facial Plastic and Reconstructive Surgery, Inc., 1110 W. Main Street, Durham, N.C., 27701.

The Family Physician Making A Comeback

Today's medical students seem more concerned with humanitarian issues and the delivery of medical care, and less interested in research, than was the case a few years ago. An informal survey of 12 medical schools across the country indicates an increasing number of students are considering specializing in family medicine. The survey, reported in *American Medical News*, showed 45% of the students at the University of Washington (Seattle) School of Medicine, and 33% of those at both the University of Texas Medical Branch at Galveston and the State University of New York at Stony Brook are interested in family medicine.

Shock Prevention: It's Possible

There are three-quarters of a billion cord-connected electrical appliances and tools in this country and that many opportunities for Americans to electrocute themselves. In order to prevent serious shocks from current leakage, a new family of safety devices called ground fault circuit interrupters (GFCI) has been developed.

When a person encounters a ground fault, it takes a substantial fraction of a second for the current to build up to dangerous levels. This is more than enough time for the GFCI to break the circuit. In a circuit protected by the device the current leakage is felt as a momentary warning tingle.

These devices were first developed for heavy-duty industrial use but are now available in sizes and ratings for regular household application. Check with your electrical contractor or electrical products distributor for more information about GFCI protection for your home.

The Isadora Duncan Syndrome

Dancer Isadora Duncan was strangled in a seemingly freak accident when her long-flowing scarf became entangled in the wheel of her boyfriend's speeding car. Recently JAMA reported that long scarves became the unlikely nooses for 14 other persons when their free ends became caught in moving machinery. Ten of the accidents occurred in connection with winter sports, and five were fatal. Because seven of the accidents occurred at ski areas, the removal of long scarves should be included in the safety regulations at ski slopes.

Medical Device Hazards

The Emergency Care Research Institute of Philadelphia is undertaking a comprehensive study of the hazards associated with medical devices. An index will be compiled of the complications, injuries, and deaths resulting from the improper design, manufacture, and maintenance of all types of medical equipment. Health professional and paramedical personnel are urged to report the following information to ECRI: (1) type of hazardous devices; (2) mode of injury or effect on the patient or user;

(3) cause of problem if identified with reasonable certainty (or indicate if cause is unknown); (4) name of manufacturer, model number, and serial number of the device; (5) action taken to correct the problem or prevent future injuries. A reporting form is available from Health Devices Hazard Reporting Systems, The Emergency Care Research Institute, 913 Walnut Street, Philadelphia, Pennsylvania, 19107.

CLINICAL NOTICES AND MEETINGS

Regional Meeting OB-GYN & FP

The southeastern region of the AAFP and District IV of ACOG will hold a joint conference on "Advances in Clinical Obstetrics and Gynecology and the Role of the Family Physician in Obstetric Practice," December 10-13 in Hollywood, Fla. The meeting will focus on development of mutually acceptable guidelines for training family practice residents in Obstetrics and Gynecology. For further information contact Dr. J. B. Williams, Jr., 2005 Riverside Ave., Jacksonville, Florida, 32204.

Albany Medical Seminar Cruise

The Albany Medical College will conduct its Fourteenth Medical Seminar Cruise January 5-22, 1973. The cruise from New York aboard the luxurious "Gripsholm" of the Swedish American Line will include the ports of call of St. Maarten, Martinique, Barbados, St. Vincent, Grenada, Curacao, Antigua and St. Croix. A comprehensive shipboard postgraduate program will be presented, covering subjects in pediatrics, psychiatry, surgery, hematology, and physiology. Request has been made for continuation study credit by the American Academy of Family Physicians. For information write: Frank M. Woolsey, Jr., M.D., Department of Postgraduate Medicine, Albany Medical College, Albany, N.Y., 12208.

Postgraduate ACP on Liver

Three Days of Liver Disease will be given by Emory University School of Medicine, January 8-10, 1973 at Royal Coach Motor Hotel, Interstate 75 and Howell Mill Road, Atlanta, Georgia. Fee for ACP members and F.A.C.P. is $80, and credit of 21 hours is allowed toward the American Medical Association "Physician's Recognition Award." For registration and other information contact the Registrar, American College of Physicians, 4200 Pine St., Philadelphia, Pa., 19104.

Leadership Conference

The First AMA National Leadership Conference will be held February 16-18, 1973, at the Marriott Motor Hotel, O'Hare Airport, Chicago, Ill. The development of the skills and the tools for more effective leadership will be the top priority of this conference. For additional information contact the AMA National Leadership Conference, AMA, 535 North Dearborn Street, Chicago, Ill., 60610.

Arizona Cardiac Symposium

The 16th Annual Arizona Cardiac Symposium will be held on January 19-20, 1973 at Mountain Shadows Hotel, Scottsdale, Arizona. For registration information contact Arizona Heart Association, 1720 E. McDowell Rd., Phoenix, Arizona, 85006. Room reservation deadline is Dec. 20.

"UNWANTED HAIR PERMANENTLY REMOVED"

FRANCES B. AERENSON, R.N.

ELECTROLOGIST

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CURRENT TRENDS IN ANTIMICROBIAL THERAPY

Monroe J. Romansky, M.D.

The impact produced by the increasing number of newer and more potent antimicrobial agents on the management and control of many infectious diseases has been dramatic. While this has given the physician a wider choice, allowing him to tailor his antimicrobial therapy more effectively to specific diseases, it has increased the need for more definitive microbiology and specific diagnosis. In addition, the problem of untoward reactions and the emergence of resistant bacteria underscore the responsibility of the physician for discriminate use of these agents. Effective antimicrobial therapy is dependent upon a variety of considerations which influence the ultimate prognosis. It basically is a complicated relationship between the host, the invader, and the antimicrobical agent. It is the intention of this presentation to consider some basic principles which can be esablished to lead to a rational approach to the use of these antimicrobial agents.

There is a practical aspect to the mechanism of action of antimicrobial agents, and in generl antimicrobial agents can be said to inhibit cell wall synthesis, inhibit protein synthesis, or alter the permeability of the cell membrane. In this aspect, which will be discussed, there is in addition to the molecular mechanism of action several basic principles of antimicrobial therapy which should be noted. Antimicrobial agents require a definite interval of exposure for effective action. Furthermore, they act chiefly on multiplying microorganisms. During this period of time effective drug concentrations are reached, and sufficient contact with the microorganism at the optimum point in its metabolic cycle is required to produce the desired effects. The rationale for a bacteriocidal agent lies in the fact that with such agents (penicillin, cephalothin, streptomycin, polymyxins) inhibitory concentrations and lethal concentrations are rather close. In the case of those antibiotics generally considered bacteriostatic (tetracyclines, chloramphenicol, erythromycin, etc.) the gap between the inhibitory concentration and lethal concentration is greater, and more adequate host defenses are necessary.

Dr. Romansky is Professor of Medicine, Department of Medicine, George Washington University School of Medicine, Washington, D.C.

This report was given at the 183rd Annual Meeting of the Medical Society of Delaware, October 21, 1972.

The emergence of antibiotic-resistant bacteria remains one of the problems in the field of antimicrobial therapy. This becomes more pronounced when one deals with chronic infections such as endocarditis, pyelonephritis, and osteomyelitis. Often it is the presence of a foreign body or the failure to achieve adequate drainage in the area of suppuration that leads to the apparent therapeutic failure. Although certain microorganisms have a propensity to develop antibiotic resistance, others have shown little evidence of this, and these aspects will be illustrated.

In addition to reviewing the current uses of individual agents, combinations of antibiotics are indicated in some clinical situations. Generally where microorganisms are resistant to a single agent or tend to develop resistance, combinations may be effective because of their different modes of action. The use of two agents in tuberculosis illustrates this well, as does, for example, cephalothin or ampicillin and gentamycin or polymixin B in systemic gram negative infections. Since there are no fixed rules for combinations of antibiotics which will definitely be synergistic or antagonistic, a need remains for definitive bacteriology and *in vitro* sensitivity studies for the selection of the proper agent or combination of agents. It should be noted, however, that antibiotics such as chloramphenicol, lincomycin, and erythromycin are potential competitors. The significance of these interactions, although not completely known, suggests that these antibiotics should not be employed simultaneously.

The choice of the route of administration depends on the disease, the antimicrobial agent, and the condition of the patient. When the patient is in shock, the intravenous administration of antibiotics produces the most consistent blood levels and hence, the most effective tissue concentrations. When given intravenously, the antibiotic generally should be given in a relatively short period of time. For example, ten to twenty minutes is sufficient for penicillin, cephalothin, or lincomycin. For erythromycin, tetracyline, and chloramphenicol a thirty to forty-five minute period is desirable. In my judgment, for effective utilization antibiotics should not be given by constant intravenous drip over extended periods. In this connection special attention should be given to the piggy-back or tandem method of administration of antibiotics whereby the antibiotic passes through a second bottle of fluid during administration. We have seen instances where the antibiotic has been greatly diluted by the second bottle without going directly to the patient.

Serious complications arising during the course of antimicrobial therapy are relatively infrequent when compared to the tremendous widespread use of these agents and the benefits derived. Nevertheless, such comparative statistics find little application in the treatment of individual patients. Emphasis must therefore be placed on these reactions and their severity. This is not meant to disparage or discourage the proper use of the antibiotics, but rather to bring attention to the need for prevention of such complications and the necessity for the ever-discriminating use of these potent agents. The incidence, for example, of allergic reactions to penicillin has been estimated to range between five and ten per cent. Special attention should be made regarding pseudo anaphylactoid reactions which occur immediately after the administration of procaine penicillin. One significant differential point is the absence of peripheral vascular collapse during this type of reaction. The patient often appears acutely psychotic and frequently experiences an intense fear of impending death. There may be auditory and visual hallucinations in addition to other neuropsychiatric symptoms. There are also important side effects of other antimicrobial agents.

It is not my intention to minimize the importance and effectiveness of the wide variety of antimicrobial agents, but to pinpoint the necessity for definitive microbiology and diagnosis, as well as to place emphasis on the untoward effects which frequently are unrecognized. With the number of antimicrobial agents at our command one can tailor antimicrobial needs specifically and effectively, and I hope these principles and factors enunciated will lead to a discriminate use of these potent agents.

A more complete review of this subject by Dr. Paul Cohen and Dr. Romansky was published in the Medical Annals of the District of Columbia, Vol 37:575, 1968.

PROCEEDINGS OF THE HOUSE OF DELEGATES, 1972

MEDICAL SOCIETY OF DELAWARE

The 183rd Annual Session of the House of Delegates, Medical Society of Delaware, was called to order at the Schrafft's Motor Inn, Newark, Delaware, on Friday, October 20, 1972, at 2:00 P.M., Herbert M. Baganz, President, presiding.

Secretary Abbiss took the roll call and a quorum was declared.

A motion was made, seconded, and approved to accept the minutes of the 1971 Session as published in the *Delaware Medical Journal.*

(All reports were accepted as published.)

REPORTS OF THE OFFICERS

REPORT OF THE PRESIDENT

I hope I am leaving some degree of success and accomplishment. I have enjoyed being your President, and I appreciate the honor and privilege of serving the Society in this position. I feel I have grown with this opportunity and experience, and I hope progress has been achieved.

My early efforts were to emphasize and achieve a broad base of physician involvement. The Society to be truly effective and survive all influences needs the efforts of all members. Our medical system is varied and complex, undergoing extension and evolutionary changes. Individual physician contributions of effort are needed, as well as a strong, effective, vocal, and representative body of organized medicine in the name of the Medical Society of Delaware. Physician leadership and expertise in organization and development of new techniques of the delivery of health care are our responsibilities. Physicians who are going to deliver the care should have a major role in planning and implementing how it is going to be delivered. There are 250 members out of a total membership of 569 involved this year with responsible assignments on boards, committees, and task forces of the Society. Medicine in today's society is subject to many cross-currents, and we need to pilot our course carefully, perhaps more than at any prior decade in our Society's history. There are multiple demands and activities that must be properly performed by professional physicians. A failure to respond to this recognized need will create a void for others to fill and may have a significant effect on the destiny of medicine. I am pleased to report there have been only a few exceptions to a uniform willingness to accept my request for involvement and participation. I wish to thank all of you for the great assistance you have given to me and to your fellow physicians and to the community. It has increased the pleasure of the office to have a membership, in spite of already existing heavy burdens, ready to be involved and perform work. I hope you will all continue your work and continue to be patient with the inevitable frustrations that occur as we make progress.

A considerable duplication of effort on the part of physicians continues with our non-prudent expenditure of time in getting the work done. Accomplishments continue to be limited in the reorganization and restructuring of the State Society relative to the county societies, hospital committees, and voluntary health agencies. I hope the progress, although small, can with more concern shortly find solutions to these problems and by study better identify them for resolution.

The affairs of your Society have been managed since the last House of Delegates by a hard-working staff and the Board of Trustees. I wish to recognize and compliment the staff for their efforts, especially Anne Shane, Henrietta Moore, and Jane Rhodes. The Board of Trustees held ten meetings this year, each with a long agenda. The Board meetings were held alternately in Dover and Wilmington. The members have been faithful and additionally assumed the duty of improving communications between committees and the Board by attending certain committee meetings on a regular basis.

In addition to the regular monthly issues of the *Delaware Medical Journal,* seven issues of the Newsletter were distributed to assist in keeping the membership informed. The Commission on Public Affairs and the Commission on Scientific Affairs reviewed plans and programs for 1972 and aided in determining how to move forward and get things accomplished with definitive plans, taking into account goals, objectives, priorities, problems, needs, and concerns. The initial meeting of the combined commissions was held January 15, 1972 on "Planning and Coordinating the Program, Goals, and Priorities of the Medical Society of Delaware 1972." A meeting of the commissions has been held immediately preceding this House of Delegates to serve as a reference committee for reports and resolutions.

This has been an active year with many and varied programs, ranging from the dedication of the Tilton Park on Broom Street in Wilmington, Novmber 11, 1971, to the Orient Adventure departing for two weeks July 23, 1972. Doctor James Tilton, a Revolutionary War hero, member of the Continental Congress, and the first U.S. Surgeon General, was a member of the original Physicians of Delaware that incorporated our Society May 12, 1789. The success of the "Orient Adventure" visiting Japan and Hong Kong is being followed by a similar tour for our Society members next June as a "Scandinavian Adventure."

Our Society needs to take a more active role in historical preservation of the archives of the Society and the medical practice and profession of Delaware. This was not achieved this year pending further definition of the mutual interest of the Academy of Medicine in such a project.

This has been the first year of function of the Board of Trustees of Blue Cross and Blue Shield of Delaware, Inc. without direct physician representation from the Medical Society. There have been no problems of our involvement or communications. This also has been the first year of Phase II of the Economic Stablization of the Committee on Health Services Industry, and there are many problems which give reason and motivation for physicians to be heard and involved on an organized basis.

The political action activity of the Society has been re-vitalized with the reorganization of DELPAC as a committee of the Board. Our Society has developed meaningful communications with the Delaware General Assembly. Support of those sensitive and knowledgeable to our counsel and advice is very important now.

Continuing education for physicians is receiving a positive approach in Delaware with a method of voluntary accountability to the public to maintain and evaluate competence through our Documentation and Certification Program. I hope after this House of Delegates the program will be fully implemented.

The Woman's Auxiliary to the Medical Society of Delaware has received further recognition and support with the invitation and involvement of the Presidents, Mrs. Aikins and Mrs. O'Donnell, in attendance at our Board of Trustees meetings. The Auxiliary with our assistance initiated the publication, the "Diamond State Distaff."

The relationship with the Delaware State Osteopathic Medical Society has been excellent. Your President has met with their executive committee, and communications are good. I also attended as a guest of the President of the Delaware State Osteopathic Medical Society the Annual Dinner Dance of the Riverside Hospital. A great number of their members are guest members on our committees, improving communications, serving each other and the public better, and avoiding some duplication of efforts.

Your President and the Society have played an active role in the implementation this year of a Regional Medical Program for Delaware. There has been support given for the proposed Delaware Cancer Institute. Doctor Thomas McGuire has been honored and recognized for his many years of service to the Society as Delegate to the AMA and as Vice President of the AMA.

As your President I have attended and participated in many meetings and functions throughout the year. Presidential visitations to the county component medical societies were made. Additional guests were present. Accompanying me were Doctor Albert Ingram in Seaford, January 20, 1972, for the Sussex County Medical Society, and Governor Russell W. Peterson in Dover, April 9, 1972, for the Kent County Medical Society. The New Castle County Medical Society visitation and presentation were February 15, 1972.

"Medicine, Society, and the Law in a Changing Era" was held as a symposium sponsored by Geigy on November 14, 1971. This was well attended and made an excellent contribution. Arrangements have been made for a second symposium entitled "What's New in Diabetes Mellitus" May 23, 1973 in Wilmington.

The AMA House of Delegates was held November 28 — December 1, 1971 in conjunction with the 25th clinical session, and in addition I had the opportunity to attend my first session of the Organization of State Medical Association Presidents with the principal address by the Honorable Russell B. Long, the U.S. Senator from Louisiana and Chairman of the Senate Finance Committee.

There were excellent attendance and participation in the Third Annual Seminar on the Medical Aspects of Sports held in cooperation with the Division of Athletics of the University of Delaware at Wilcastle Center, Saturday, January 22, 1972. A "Public Affairs Workshop" was a pleasant and interesting session held March 11 and 12, 1972 in Washington, D.C. sponsored by the AMA-AMPAC to which several other representatives of the Society travelled. I spoke and represented you at the 43rd Annual Meeting of the Woman's Auxiliary, April 26, 1972.

Sharing thoughts and listening to concerns of other societies were enlightening as I attended the 174th Annual Meeting of the Medical and Chirurgical Faculty of the State of Maryland in Baltimore May 3, 4 and 5, 1972, and the 206th Annual Meeting of the Medical Society of New Jersey in Atlantic City May 6-9, 1972. It was a pleasure to see Doctor Ali Z. Hameli honored April 11, 1972 at the 16th

Annual "Salute to Good Government" by the Committee of 39 Inc. Included among other meetings I attended as your President were the 109th Annual Meeting of the Delaware State Dental Society June 17, 1972, the 86th Annual Convention of the Delaware Pharmaceutical Society, Inc., and Travelers Auxiliary June 27-28, 1972.

Medical education received attention, and an informational conference was held on "New Approaches in Health Education in Delaware" especially concerning the Delaware Institute of Medical Education and Research and the Marka T. duPont Institute of Human Behavior at the University of Delaware's new Clayton Hall of Continuing Education September 21, 1972. There was an excellent conference on behalf of the Medical Society organized by the AMA on Leadership held at the Academy of Medicine, September 23-24, 1972.

I appreciate the recognition to serve as your President and offer my continuing support as I pass the reins and gavel to your next President, Doctor Joseph A. Elliott.

Thank you.

Herbert M. Baganz, M.D., ***President***

REPORT OF THE SECRETARY

One hundred twenty-five meetings including today's meeting were held during this past year. Ten meetings were devoted to the transaction of business matters by the Board of Trustees; in addition, there were one hundred twelve committee meetings for which preparations were made by the Society office and one meeting open to all Society members. There was a seminar at the University of Delaware entitled "Medical Aspects of Sports" and a "Speakers and Leadership" Seminar at the Academy. The dinner dance will be held October 21st at Wilmington Country Club. All business transacted by the Society has been recorded in the minutes as presented by the Secretary.

The total membership as of October 1 is as follows:

1972

	Dues-Paying Members	Dues-Exempt Members	Total
Kent	48	5	53
New Castle	382	58	440
Sussex	64	12	76
	494	75	569

1971

	Dues-Paying Members	Dues-Exempt Members	Total
Kent	37	4	41
New Castle	375	49	424
Sussex	60	7	67
	472	60	532

The Society has had inquiries from 91 out-of-state physicians seeking placement in Delaware plus 52 inquiries received via AMA. The office has corresponded with these physicians and acted as the liaison between them and local physicians who are seeking associates. Complimentary ads have been placed in the *Delaware Medical Journal* for doctors seeking local opportunities. The office requests that doctors who are seeking associates so inform it.

Joseph W. Abbiss, M.D., ***Secretary***

REPORT OF THE TREASURER

The report of the Treasurer for 1971-1972 is in two sections. Part I consists of a statement of income and expenses for the twelve months of calendar 1971. This has been prepared by Haggerty and Haggerty, certified public accountants, and is presented from their 1971 audit of the Society's accounts.

The audit consists of a combined statement of the financial condition at December 31, 1971, comparative statements of cash receipts and disbursements for the years ended December 31, 1971 and December 31, 1970, budgetary statement of revenue and expenditures for the year ended December 31, 1971, statement of cash receipts and disbursements for year ended December 31, 1971, and statement of securities owned at December 31, 1971 and income therefrom during the year.

This examination was made in accordance with generally accepted auditing principals and accordingly included all procedures felt necessary in the circumstances.

Cash in banks, recorded receipts, and recorded disbursements, income earned on securities owned during the year were all verified by references through proper channels.

Part II of this report is a statement of income and expenses for the first nine months of 1972, and as previously mentioned, has not been audited for the year. A review of the expenses of the first nine months of the current administrative year and an estimation of the expenses for the final three months indicate that the individual budget accounts are sound.

PART I
STATEMENT OF INCOME AND EXPENSES CALENDAR 1971

Revenue:	
Operating:	
Dues	$ 37,238.50
Dividends and interest	6,557.44
Miscellaneous	135.30
	$ 43,931.24
Contra:	
AMA dues	$ 43,695.00
DMJ subscriptions	2,817.00
Scholarships	2,367.50

Annual meeting:	
Banquet ticket sales	3,176.00
Exhibits	2,565.00
Grants	1,900.00
AMA dues rebate	400.85
Reimbursed expenses	1,644.79
	$ 58,566.14
TOTAL REVENUE	$102,497.38
EXPENDITURES:	
Operating:	
Salaries	$ 25,990.51
Employer taxes	763.04
Hospitalization	1,605.79
	$ 28,359.34
Office operation:	
Contribution to Academy	$ 1,562.50
Printing, postage and stationery	2,301.50
Telephone and telegrams	1,483.91
Office salaries and expenses	3,659.80
Audit	300.00
Insurance	408.00
	$ 9,715.71
Travel:	
AMA delegate	$ 117.75
Contingency (officers-staff)	2,051.30
	$ 2,169.05
Contributions, dues and subscriptions:	
Blood Bank	$ 262.00
Contingency contributions	400.00
Delaware State Chamber of Commerce	75.00
AMA-Aces and Deuces	75.00
Better Business Bureau	50.00
Medical Society Executive Association	15.00
Presidents and Presidents Elect	25.00
Public Health Association	10.00
	$ 912.00
Committees and contingency fund	$ 2,277.43
Capital expenditures	$ 1,473.45
Contra:	
AMA dues	$ 43,805.00
Annual meeting	8,961.74
DMJ subscriptions	2,817.00
Scholarships	2,000.00
Reimbursed expenses	811.11
	$ 58,394.85
TOTAL EXPENDITURES	$103,301.83

EXCESS (DEFICIT) REVENUE OVER EXPENDITURES	$ (804.45)

PART II
TREASURER'S REPORT
OCTOBER 1, 1972

Checking Accounts — Balance, December 31, 1972			$ 3,318.18
RECEIPTS:			
Dues	$61,560.50		
Income from Investments	1,188.48		
		$ 62,748.98	
Annual Meeting			
Exhibits	$ 2,210.00		
Grants	1,650.00		
Ticket Sales	1,509.50		
		$ 5,369.50	
Contra			
AMA Dues	$41,525.00		
Kent County Dues	920.00		
Sussex County Dues	645.00		
Delaware Medical Journal	2,871.00		
Roster	45.00		
Scholarships	2,397.50		
Miscellaneous	10.00		
Commissions-AMA	404.25		
		$ 48,817.75	
Reimbursed Expense		$ 6,940.72	
TOTAL RECEIPTS			$123,876.95
Transfers			$ 34,777.72
DISBURSEMENTS			
Contra			
AMA Dues	$41,195.00		
Sussex County DUES			
Kent County DUES			
Dues Rebate	423.70		
Scholarship	2,500.00		
Annual Meeting	1,246.27		
		$ 45,364.97	
Taxes (Employer)	$ 2,331.42		
Salaries	30,422.40		
Employee Benefits	4,791.27		

Rent	3,482.50
Stationery, Printing, Postage	4,199.08
Telephone	987.99
Legal Counsel	2,272.12
Travel, (AMA Delegate)	4,508.27
Travel, (Contingency)	
Committees and Contingency	4,050.50
Part-time help	1,000.59
Miscellaneous (office)	181.80
Contributions	911.00
Roster	602.56
Miscellaneous (Woman's Auxiliary)	69.44
Service Contracts	147.50
Petty Cash	400.00
Periodicals	23.55

	$ 60,381.99	
Reimbursable Expense	$ 4,751.10	
TOTAL DISBURSEMENTS		$110,498.06
Transfer		$ 45,837.72
BALANCE, October 12, 1972, CHECKING ACCT. — WSFS		$ 5,637.07

COMMENTS:

1. The increased dues assessment which was put into effect in 1972 eliminated the need to spend out of our capital account and placed the Society on a sound financial basis for this current year, 1972.
2. Salary increments were made in accordance with the 5.5% limit as set by the Pay Board — Phase II.
3. As predicted, there was an increase in our expenditures for hospitalization for our employees, printing, postage, stationery, insurance, and rent.
4. There was an increase in legal payments because of the new negotiated Blue Cross contract and other legal steps required for the Society.
5. The Bonus Plan, which had been in effect for a number of years, was discontinued and a retirement and disability program was instituted for our employees in its place.
6. The securities owned by the Society have made an outstanding increase from book value to market value as of December 31, 1971, and have continued to maintain this stability. There were no changes in the securities during the year under review.
7. The Board of Trustees and the Budget Committee have approved the advisability of accepting an option of automatic dividend reimbursement in the form of extra shares of stock from companies whose stock we hold. This is a sound method of building up our stock portfolio at a lower commission fee.

Conley L. Edwards, M.D., ***Treasurer***

REPORTS OF THE STANDING COMMITTEES

BUDGET COMMITTEE

The Budget Committee of the Medical Society of Delaware met on September 27, 1972 and approved the budget submitted with this report.

The Committee felt that even though the current year will end with a surplus, increasing rent, taxes, etc. plus unforeseen contingencies would make it unwise to reduce dues. The Committee therefore recommends that dues be retained at the same level for 1973.

The treasurer presented a resuest from the Board of Trustees that the Budget Committee review the advisability of accepting an option of automatic dividend reimbursement in the form of extra shares of stock from companies whose stock we hold. The Committee felt this was an advantageous method of building up our stock portfolio at a lower commission fee. They voted to accept this option automatically as it is presented by any of the companies in which we are stockholders.

BUDGET

RECEIPTS		
Dues		$64,750
Dividends and Interest		7,607
TOTAL RECEIPTS		$72,357
CONTRA RECEIPTS		
Kent County	$ 900	
Sussex County	645	
AMA Dues	42,000	
AMA Dues Rebate	420	
Scholarships	2,510	
DMJ Subscription	3,012	
Annual Meeting Grants	1,880	
Annual Meeting Exhibits	2,975	
TOTAL	$54,342	
CONTRA DISBURSEMENTS		
Kent County	$ 900	
Sussex County	645	
AMA Dues	42,000	
AMA Dues Rebate	420	
Scholarships	2,510	
DMJ Subscription	3,012	
Annual Meeting	4,855	
TOTAL	$54,342	
DISBURSEMENTS		
Employee Benefits	$ 2,600	
Salaries	40,351	

Employer Taxes	1,792	
Hospitalization	1,640	
Office Operation		
Contribution to Academy	$ 4,400	
Renovation	600	
Contribution to Academy (Special)	500	
Printing, Postage, Stationery	6,500	
Telephone-Telegrams	1,500	
Audit	500	
Office (including part-time office help)	750	
Insurance and Contracts	700	
		$61,833
Travel		
AMA Delegate	$ 1,000	
Contingency (Officers-Staff)	3,000	
		$ 4,000
Subscriptions, Contributions, Dues		
Wall Street Journal	$ 35	
Delaware Public Health Assn.	15	
Blood Bank	300	
AMA-Aces and Deuces	50	
Delaware Better Business Bureau	50	
Medical Society Executive Assn.	50	
Delaware State Chamber of Commerce	75	
Presidents and Presidents-Elect	25	
Contributions-Contingency	300	
Continuing Education Seminars	1,000	
Washington Report	35	
Delaware State News	27	
News-Journal	39	
Morning News	39	
		$ 2,040
Legal Counsel		$ 2,000
Committees and Contingency Fund		$ 2,484
TOTAL DISBURSEMENTS		$72,357

A. E. Bacon, Jr., M.D., *Chairman*

C. L. Edwards, M.D.
J. A. J. Forest, Jr., M.D.
L. Katzenstein, M.D.
N. Kuseybi, M.D.
T. S. Vates, Jr., M.D.
C. Walker, Jr., M.D.

PEER REVIEW AND PROFESSIONAL EVALUATION COMMITTEE

The Peer Review and Professional Evaluation Committee of the Medical Society of Delaware has met three times during the past year.

At each of these meetings various statewide and local problems were presented, discussed, and in some cases resolved.

During the past year the committee has been able to set in motion the computer system for retrieval of information that will be of assistance in future peer evaluation of private practice. The committee also has received from most of the specialty groups in our state a list of names of physicians who could serve if special problems arise in their particular specialty. To date we have had to utilize only one group, and this worked satisfactorily.

This committee hopes to further develop the peer educational program but fully realizes that many aspects of this system are entwined with punitive action. This is something which we strive to avoid, but in many cases we are completely unable to do so.

The concept of peer review is now widely accepted in the State of Delaware and in general is well understood. Some resistance is still met in certain cases, but the educational benefits are slowly becoming manifest. Future projects will be more beneficial, and as more physicians become involved with the committee (as members-not as problems), the system will prove more profitable.

The only new Guideline adopted by the Committee and approved by the Board of Trustees is Guideline #11, which follows:

Guideline #11 — Documentation on the patient's chart of the indications for any surgical or diagnostic procedure is not an unreasonable request and is consistent with good medical care.

Henri F. Wendel, M.D., *Chairman*

A. E. Bacon, Jr., M.D.
L. M. Baker, M.D.
S. W. Bartoshesky, M.D.
W. W. Briggs, M.D.
R. B. Glidden, M.D.
D. A. Levitsky, M.D.
C. M. Moyer, M.D.
W. Omans, M.D.
W. P. Portz, M.D.
D. J. Reinhardt, III, M.D.
H. Taylor, M.D.
C. A. Depfer, D.O. Representative from the Delaware State Osteopathic Medical Society
D. T. Walters, M.D.

PROGRAM COMMITTEE

The printed program reflects the achievements of the Program Committee. Each committee member assumed the task of securing a speaker for the Annual Meeting.

W. H. Duncan, M.D., *Chairman*

H. M. Baganz, M.D.
J. B. Geissinger, M.D.
W. J. Holloway, M.D.
C. L. Minor, M.D.
H. Rosenblum, M.D.

PUBLIC LAWS COMMITTEE

The Public Laws Committee has since the last annual meeting of the Society met twice in 1971 and six times in 1972. The Committee concerned itself almost exclusively with matters being considered by the State Legislature.

Major consideration was given to certificate of need and rate review legislation, which was generally opposed by the Society. Senator Louise Connor and Representative Daniel Weiss met with the committee specifically to discuss this legislation. In any event no such legislation was adopted by the legislature. However, it seems likely that such legislation may be introduced in the future.

The Committee was concerned with the implementation of legislation previously enacted on termination of pregnancy. Doctor William Slate, Director of Obstetrics and Gynecology of the Wilmington Medical Center, met with the Committee to discuss this. He pointed to several improvements that might be legislated. Representative Weiss accurately predicted that no action would be taken at this session of the legislature to simplify the process presently required by law.

The Committee recommended the support of bills concerned with smaller classes for pregnant students; tighter controls on lead content of paint; increasing the funding of the Hospital Capital Improvement Loan Fund; increasing the numbers of psychologists in the public schools; raising the age of consent in rape cases; the establishment of a program to find sickle cell anemia and to offer genetic counselling to those with the disease or the trait; reducing the legal criteria for intoxication based upon blood alcohol levels; and supporting flouridation of water.

The Committee would have functioned far less effectively but for the continuing assistance of Mr. Alfred Nai, Mrs. Anne Shane, and especially of Mrs. Henrietta Moore, to whom it extends its thanks and its hope that such excellent staff work may continue.

A. J. Morris, M.D., ***Chairman***
G. J. Savage, M.D., ***Vice-Chairman***

J. W. Alden, Jr., M.D.
J. E. Belgrade, M.D.
R. J. Bishoff, M.D.
N. L. Cannon, M.D.
R. C. Corbalis, M.D.
K. M. Corrin, Jr., M.D.
E. S. Dennis, M.D.
L. M. Dobson, M.D.
M. J. McKusick, M.D.
P. L. Rothbart, M.D.
C. R. Donoho, M.D.
A. Z. Hameli, M.D.
C. B. Hearne, M.D.
P. J. Mette, M.D.
J. C. Bradford, Jr., D.O.
Representative of Delaware State Osteopathic Medical Society
Vincent Lobo, D.O.
Representative of Delaware State Osteopathic Medical Society

BOARD OF TRUSTEES LIAISON TO THE PUBLIC LAWS COMMITTEE

The Public Laws Committee is the most active committee, the most influential committee, the least mobile committee, and the most aged committee. Embodied in this sentence are the praise and criticism of the Public Laws Committee.

Its study ranged from consideration of Maryland's State Comprehensive Health Planning Agency Law to screening the up-to-the-minute preparations of the Delaware Revision of the Medical Practice Act. Included in this wide attention were all bills of a health care nature in our State, which were reviewed with recommendations being sent to our Board of Trustees and published in the Newsletter when possible. Sandwiched into meetings were personal appearances of legislators and judges, who were questioned and who gave testimony to aid in helping the committee in forming its opinions.

The age of the committee is shown not by the age of its members but in how long its members have been on the committee and how long its chairman has held office. No committee should hold shape so long that its attitudes are fixed and inflexible. This is not to say that these qualities have seeped into the committee, but it does suggest that rules of procedure in committee selection and chairmen appointments should be formulated for the future.

The Public Laws Committee has by its own admission declared itself immobile, when it pointed out it could only handle state legislation and would have to give the responsibility for national legislative interest to others and other committees. The word immobile can also be applied to the fact that the Public Laws Committee has not since about 1965 held a meeting outside 1925 Lovering Avenue and has never had a meeting in the area of our State Legislative Hall. This is an observation made to create thought and entertain new ways to be even more effective.

Rhoslyn J. Bishoff, M.D.
Board of Trustees Liaison

PUBLICATIONS COMMITTEE

The Publications Committee and the Editorial Board met on three occasions during the past year. A new department, Book Reviews, has been added to the *Journal* this year. Books of medical interest available for review are published in the Society *Newsletter*. This past year we have had reviews by Joseph A. Glick, M.D., William J. Holloway, M.D., William Taylor, M.D., Mrs. Harriet Durham, Oscar S. M. Marin, M.D. and Miss Martha Baynard.

The first annual award to the house officer authorizing the best paper published or accepted for publication was shared by Herbert Heym, M.D. for his paper on "Primary Aldosteronism — Conn's Syndrome" and Roger B. Thomas, Jr., M.D. for "Antiviral Therapy." William J. Holloway, M.D. has kindly consented to provide a similar award for this coming year and to secure the services of a judging committee.

Lloyd Harrison, M.D. has continued faithfully to provide us with memorial notices.

The Eighth Annual Infectious Disease Symposium was published in the November, 1971 issue.

After thirteen years Mrs. Melita Phillips retired as Assistant Editor although she has kindly consented to remain as layout and artistic consultant.

The *News-Journal* quoted several of our articles and editorials, including those by Catherine Middleton, M.D., Harold S. Rafal, M.D., and Bernadine Z. Paulshock, M.D.

New Editorial Board members this year included Rhoslyn J. Bishoff, M.D., William O. LaMotte, Jr., M.D., Marjorie J. McKusick, M.D., Dewey A. Nelson, M.D., and William J. Vandervort, M.D., who replaced Charles Allen, M.D., John H. Furlong, M.D., Albert L. Ingram, M.D., Leonard P. Lang, M.D., and Charles L. Reese, III, M.D. We wish to extend them our particular thanks along with the numerous other physicians who kindly serve as manuscript reviewers when we are in need of their expertise.

We wish once more to remind the members of the Medical Society of Delaware that this is their *Journal*, and we all times welcome their suggestions and contributions.

Robert B. Flinn, M.D., ***Chairman***
J. W. Abbiss, M.D. **K. K. Kimura, M.D**
W. J. Holloway, M.D. **B. Z. Paulshock, M.D.**

DELAWARE MEDICAL JOURNAL

Statement of Receipts and Disbursements

	Year Ended Dec. 31 1971	Jan. 1- Oct. 1 1972
TOTAL RECEIPTS	$35,376.28	$25,289.07
TOTAL DISBURSEMENTS	$34,105.47	$27,148.99
Excess revenue over expenditure	$ 1,270.81	—$ 1,859.92
Savings Account	$ 8,378.83	$ 8,777.82
Due to General Fund	$ 5,000.00	$ 5,000.00

Anne E. Shane, ***Business Manager***

THE AMA DELEGATE

Your delegate attended the 121st Annual Convention of the AMA in San Francisco, California, June 18-22, 1972, and participated in the proceedings of the House of Delegates as one of 241 physicians representing their constituents back home. Through the mechanisms of delegation caucuses, hearings before reference committees, and debate on the floor of the House itself, this body considered and made decisions on 123 resolutions and 58 reports. The actions taken are a matter of record and need not be reviewed here in detail. (See publication of AMA dated July 7, 1972, entitled "Actions Taken by the AMA House of Delegates, Annual Convention, June 18-22, 1972, San Francisco, California.") The activities in which your delegate was directly and indirectly involved and which are not otherwise a matter of record, will instead make up the main body of this report.

Your delegate was privileged to serve as one of the five members of Reference Committee A (Insurance and Medical Service), which considered more items than any other committee: 21 resolutions and 10 reports. Hearings held on these matters from 9 a.m. to 1 p.m. on Monday, June 19th, and a report was developed in executive session from 2:30 to 6:00 p.m. and from 10 to 12 midnight on the same day .This report was later presented to the House by the Committee chairman, with recommendations for action which were either accepted, or debated and changed to suit the wishes of the majority of the House. In similar manner, the deliberations of the other reference committees were brought to the floor of the House and a consensus reached which in effect constituted the formation of official AMA policy on the many issues involved.

While it was a privilege to serve on one of the the major references committees, your delegate could not as a result sit in on any of the other reference committee hearings to provide input on several matters of interest to some physicians in Delaware. Some larger states have enough delegates to provide coverage for all reference committees. If our delegation were doubled, it wouldn't go very far to solve this problem. This brings me to a discussion of the Delaware resolution which last year's Medical Society of Delaware House of Delegates passed and requested consideration of by the AMA House of Delegates. The subject of the resolution was Minimum Delegate Representation, and the resolve requested "That there be two delegates in the House of Delegates of the American Medical Association from states having fewer than 1000 members." At the present time a state has one delegate for the first 1000 members, gets two at 1001, three at 2001, etc. It is obvious that on this basis, Delaware is not apt to have more than one delegate in this century. Since the proposed change was somewhat revolutionary, it was felt advisable not to submit this resolution at the Clinical Session in December 1971, since there would not be time to feel the pulse of the other states on this matter. Letters were sent to all the states with one or two delegates, of which half responded. One third were in favor of the resolution, one third were against, and one third weren't sure. Since we had at least a little support, we went ahead with the resolution at the Annual Meeting in June 1972, the Delaware proposal becoming Resolution 58. This was referred to the Reference Committee on Constitution and Bylaws.

Fortunately the immediate past president of the Medical Society of Delaware, Rhoslyn J. Bishoff, M.D., was in San Francisco, and he agreed to attend this reference committee meeting and speak on the proposition. This was especially appropriate since he was the author of the resolution as it passed the House of Delegates of the Medical Society of Delaware. In spite of an eloquent plea before this reference committee by Dr. Bishoff, the committee's report to the House simply said:

> "This resolution would grant two delegates to those states having fewer than 1000 members, instead of the single delegate such states now have. Most of the representatives of single delegate states which appeared before your reference committee opposed the resolution on the basis that it was patently unfair representation and that it might also cause financial hardship.

Recommendation:

Mr. Speaker, your reference committee recommends that Resolution 58 be rejected."

Before this recommendation of the reference committee was acted upon, your delegate asked for the floor and addressed the House as follows:

"Mr. Speaker, the delegate from the state which proposed Resolution 58 would like to take two or three minutes of the House's valuable time to discuss the reference committee's recommendation now before the House, to present some information which is new to the majority of the delegates who did not attend the hearings of this reference committee, and to suggest an avenue of disposition which is more positive than the harsh rejection contained in the committee's report.

"This delegate did not attend the hearings of this reference committee either, because he was serving as a member of another reference committee. Delaware was well represented there, however, by the immediate past president of its Medical Society, Dr. Bishoff. This was fortuitous, since he happened to be the author of the resolution as it passed our House of Delegates back home. His enthusiastic support of this idea was based on several factors, including a precedent in Delaware for such minimum representation in that a county has a minimum of two members of our Board of Trustees, including a desire to have more people involved in national medical affairs, especially young physicians, and including an awareness of the value of consultation between at last two involved people, stemming no doubt from the fact that for 18 years this state has had a delegate who seldom consulted anybody. Dr. Bishoff also reported on the fact that prior to presenting this resolution, Delaware canvassed the states with one and two delegates, heard from half of them, and found one-third of these in favor, one-third opposed, and one-third uncertain. Thus, Delaware did not go into this without some groundwork and at least a little support for its idea.

"At this very session of the House, the Council on Long Range Planning and Development has been holding hearings on all aspects of the future of this Association, including its organization and structure. It seems to this delegate that the proposal in Resolution 58 has enough merit to receive more consideration than it has at this session, and that its further study could be accomplished by referral by this House to the Council on Long Range Planning and Development, and, Mr. Speaker, I so move."

There then followed a five-minute discussion of the motion to refer by several of the delegates, all against referral, and when the question was called for, the motion to refer was almost unanimously defeated. Your delegate again addressed the House as follows:

"Mr. Speaker, the arguments against Resolution 58 seem to be overwhelming: the additional cost to smaller states, the enlargement of a deliberative body already unwieldy in size, and the unfairness of the unequal representation which would result. The delegate from Delaware can only graciously accept the wishes of the House on this matter. But, Mr. Speaker, if you don't want this delegate to return home from his first House meeting as a voting member suffering a complete inferiority complex, you will see that the harsh words 'be rejected' contained in the reference committee's rcommendations be deleted, and in their stead be substituted the words 'not be adopted,' and, Mr. Speaker, I so move."

The speaker then assured your delegate that his sensitivities would be considered in the final wording, called for the question, and Resolution 58 was not adopted.

Thus ends the saga of Resolution 58, from which some good might be salvaged if we reflect upon the responsibility involved in the proper discharge of just one vote. Your delegate feels that this is possible only if all members of the Society, with views on issues under consideration make those views known to him. Then it might truly be said that Delaware may have but one vote, but it has many voices. Indeed, your delegate was so imbued with this thought upon his return from San Francisco that he prepared an editorial on this subject which appeared in the July issue of the *Delaware Medical Journal,* and which is attached hereto as a part of and the conclusion to this report.

William O. LaMotte, Jr., M.D.

ONE VOTE — MANY VOICES*

Your delegate has just returned from the 121st annual session of the House of Delegates of the American Medical Association. The House addressed itself to 123 resolutions and 56 reports, which were discussed and studied in 11 reference committees before receiving final action. The subjects ranged from marijuana, blood, and guns, to peer review, third parties, and reorganization of the Association. Whatever criticism may fairly be directed toward the AMA, the lack of democracy is not one of them. If properly used, the mechanisms exist in that organization to make it the most democratic national group in existence, and if not properly used, this is the fault of the grass roots and not the structure of the Association. Every physician should make it a must to attend a meeting of the House of Delegates, to participate in reference committee hearings, and to monitor the proceedings of the House itself. He will then see that the problems which face medicine and the American people receive the kind of in-depth consideration he would want them to receive, and that, while every decision made cannot please every physician, a reasonable consensus is reached which reflects the very heart of the democratic process.

One of the almost unanimous and perhaps wise decisions made by this House was not to adopt the resolution submitted by Delaware to provide a minimum of two voting delegates for each state. The present arrangement provides for one delegate for each 1000 member physicians of each state. The main arguments against the Delaware resolution were that such a change would violate the principle of proportional representation now in existence would enlarge an already unwieldy-sized House, and would place an increased financial burden on small states already finding it difficult to meet their obligations.

It seems to this reporter that a state should take full advantage of its existing delegate vote before it is justified in seeking additional voting strength. This can be done by channeling many member voices into this voting prerogative. There are numerous avenues by which this can be accomplished. Thirty days prior to the Annual and Clinical meetings of the House of Delegates, the *American Medical News* will publish the business to come before the House, and Delaware physicians should study this report and contact their delegate by letter or by telephone to provide input for his decisions. (Prior to the Annual Meeting this past June he received one letter, two phone calls, and two corridor consultations — surely our membership can do better than that in the future.)

Any physician who is attending the Annual or Clinical convention should notify his delegate so that he can become a part of the Delaware delegation and share in the discussions and decisions to be made at breakfast and luncheon caucuses as the session progresses.

Physicians who are sent by the Society as President (or his representative), or as alternate delegate, should consider their first obligation to participate in this process while attending the meeting. All other interested volunteers will be welcome, for the true work of the House of Delegates is done in eight or nine reference committees meeting concurrently, and any physician member may participate actively in these proceedings.

Let us therefore become involved, and by one means or another, let us hear many voices, so that the one Delaware vote may be representative and meaningful.

William O. LaMotte, Jr., M.D.
*From the *Delaware Medical Journal*
July, 1972

DELAWARE ACADEMY OF MEDICINE

During the past year, the Academy of Medicine has been concerned with a number of problems. I have attended most of the Executive Committee meetings and can report the following. Before doing so, however, some general statement about the character of the Academy and its goals should be clearly understood. The Academy is many things. It is a building; it is an idea; it is a place where the lay public, the medical profession, and the dental profession can join together for the promotion of understanding and improvement in health care matters. It is the repository of a library which is available to the public. It is a sponsor of many programs, both with the medical profession and other allied professions and groups in the furtherance of their professional objectives. The Academy is the owner of a building, and provides space with appropriate compensation for various medical and medically-oriented organizations to conduct their affairs.

In the light of these comments, which probably don't include every one of the objectives, goals, and purposes of the Academy but rather give some idea of the range of the Academy's affairs, the most pressing needs are related to growth. The Academy needs more space, it needs more income, it needs more support. Financial support has been hard to come by, and the Academy is finding it difficult to make financial ends meet. One way, of course, is to increase the charges for the space it provides to such agencies as the Medical Society of Delaware, the Cancer Society, and others. Another way would be to increase dues. Another way would be to get money by a fund-raising appeal as has been conducted in the past but usually on a low-keyed basis, and the yield except in a few notable instances has not been adequate. As a result of these problems, the Academy has conducted several meetings to explore possible ways of changing the direction the Academy is going as well as seeking ways to improve its financial posture and to improve its services to the community. One idea has been to convert the Academy largely to a health museum, and build another building for the offices, auditorium, and library. Another idea has been to move the entire Academy to the future campus of the Wilmington Medical Center at I-95 where adequate space could be acquired and where a large auditorium and library facilities would be more appropriate and better utilized because of its propinquity to a large medical complex. No decisions have been made, and further discussions are continuing. Efforts to acquire more property in the block adjacent to the Academy are going on, although some of this has been limited by the declining financial resources of the Academy.

During the year, the Academy has had a successful annual meeting with a delightful speech by one of the members of the Ra Expeditions, Mr. Norman Baker, which attracted a large audience. At this meeting, Doctor Edgar and Doctor Elizabeth Miller were honored at a banquet preceding the lecture. Other meetings sponsored or cosponsored by the Delaware Academy of Medicine included: The Philadelphia Regional Chronic Pediatric Pulmonary Disease Program in October, 1971, "Medicine, Society and the Law in a Changing Era," presented in November 1971, the Robert O. Y. Warren Lecture in December 1971, and an Infectious Disease Symposium in May 1972.

The membership of the Academy has reached a level of 387, which includes 338 physicians, 49 dentists, and 23 affiliate members. Over 500 meetings of all sorts were held in the Academy during the past year. The library has increased in volume and services by opening some evenings with a corresponding increase in utilization. One other problem concerning the Medical Society of Delaware and the space it requires has hopefully been solved by a small committee, which has met with the officials of the Academy so that the State Society will have adequate space for its growth needs and a potential for further space is envisioned if and when necessary. Recommendations resulting from several meetings and discussions seem to have worked out the problem quite amicably and to the satisfaction of both parties.

I have appreciated the opportunity of serving as your liaison to the Academy of Medicine and would be pleased to continue.

Norman L. Cannon, M.D., *Representative*

REPORTS OF SPECIAL COMMITTEES

WOMAN'S AUXILIARY TO THE MEDICAL SOCIETY OF DELAWARE

Summary of year's activities from October 1971 to October 1972

Fund Raising

Combined efforts of three counties by means of Fashion Show and Luncheon, Dinner Dance, Recipe Auctions, Donations, Memorial Contributions, and a very successful Arts and Crafts Show netted the following:

$2,386	for Nurses Scholarship Fund
3,019	for AMA-ERF
647	for Academy of Medicine Student Loan Fund
200	for Sylvester W. Rennie Scholarship for Nursing Education Fund

Community Service

Vision Screening — Pre-schools, Head Start, and Day Care Centers. 1,513 children were screened with 27 referrals. There is some feeling this program could be re-evaluated and limited to schools where there is no full-time health personnel (who possibly should assume this responsibility).

Health Careers — Fourteen applicants (six New Castle County, four Kent County, four Sussex County) were screened and selected for nursing scholarships and grants-in-aid made available by the Auxiliary, Rotary Club of Wilmington, and Lions Club of Milford. Funds dispensed totalled $5,344. Sylvester W. Rennie Scholarship for Nursing Education was awarded for the first time to a student from Kent County. "Candy Stripers" for volunteer hospital duty were recruited and oriented. Members are involved with Future Nurses Clubs. Manpower was supplied for "Health Career" Information Booths in shopping malls.

Other Services — A child-care service for Family Court of Delaware was organized. The Auxiliary purchased equipment and instructional toys, etc. for this Children's Room, and with cooperation from other service organizations we are providing volunteers for supervision of children. At the dedication of the new Family Court Building Governor Peterson visited the Children's Room and expressed interest in this coordinated volunteer effort.

Manpower and merchandise were supplied for affairs held for patients at Delaware State Hospital.

Members and volunteers served at the Senior Center.

We furnished supplies for the Visiting Nurse Association and collected drug samples, usable medical equipment, and orthopedic appliances for medical mission hospitals at home and abroad.

We interested the Pediatric Department of Wilmington Medical Center in purchasing "Wendy Well" and "Billy Better" books with casette and film strip for patient use.

We encouraged several business firms to include pamphlets on drug abuse in each shopping bag leaving their establishments.

Our members assisted in drug abuse programs.

Meetings

Regular meetings were held at state and county levels with qualified speakers on such subjects as Drug Addiction and Addicted Newborns; Bills Relating to Medicine before the State Legislature; Problems of the Doctor's Wife; What to Do in Case of Husband's Death.

Annual State Meeting held in April completed a very active year under leadership of an enthusiastic and capable President, Mrs. James P. Aikins.

Officers and Committee Chairmen attended National Conferences, Neighboring States' Meetings, Regional Workshops, etc. President attended regular Medical Society Board of Trustees Meetings.

Members are participating in reorganization of Delaware Medical Political Action Committee and will assist in its functions .

Members have assisted Medical Society Staff in various public relation projects, mailings, etc. and have planned a program to coincide with the Annual Meeting of the Medical Society of Delaware.

A STATE NEWSLETTER was published for the first time. Financial aid for this venture was solicited from the Director of Medical Research of I C I America Inc. and was kindly given. Mailing costs were assumed by the Medical Society.

Future Projection

The National Auxiliary to AMA suggests our activities in 1972-73 should emphasize Nutrition and Safety. Suggestions from the Medical Society would be welcome as to what effective action the Auxiliary could take to increase public interest in these areas.

Now that AMA-ERF has accepted DIMER as a recipient for designated funds, we will try harder.

At our Annual Meeting we honored Dr. Margaret Handy, who accepted honorary membership in our organization. We are very happy to have her.

The Auxiliary thanks the Medical Society of Delaware for their help and encouragement, and for the annual supplement to our treasury from the Medical Society, this year voted to be $300 by your Board of Trustees.

Kathryn B. O'Donnell, *President*

ADVISORY COMMITTEE TO THE WOMAN'S AUXILIARY

This is to report the Advisory Committee to the Woman's Auxiliary to the Medical Society of Delaware has approved activities of the Auxiliary from October, 1971 to October, 1972, including fund raising for their Health Careers Program, AMA-ERF, Academy of Medicine Student Loan Fund; participation in health programs such as vision screening; community service; informative programs on medical legislation, drug abuse, etc.; assistance to the Medical Society staff when needed. Specific details may be read in the Auxiliary President's report.

In addition to their already established projects, the initiation this year of a Child Care Service for the Family Court of Delaware in answer to the Court's plea for help is another fine expression of physicians' wives' continuing concern with community problems. The fact that they succeeded in securing the help of other women's organizations in establishing the Court's Children's Room is perhaps a new approach to solving a community need.

I have observed that Auxiliary members have worked well and long at their many undertakings.

Edward T. O'Donnell, M.D., *Chairman*
W. H. Comer, M.D.

BY-LAWS COMMITTEE

The following report of the By-Laws Committee represents the Chairman's interpretation of the sense of the numerous meetings and consultations held during the year.

1. All standing and special committees of the County Societies should be absorbed into the corresponding State committee.
2. Proportionate County Society or geographical representation on these committees should be assured:
   a. This could be accomplished by election of the standing committees (excepting the Peer Review Committee) by the House of Delegates (as is done at present).
   b. Chairmen of the special committees and Peer Review Committee should be appointed by the State Society President. Committee members of these committees shall be appointed by the State Society President from lists of candidates submitted by each County Society President. A County Society President need not submit names for every special committee but may do so. Each County Society President should actively solicit names of possible committee members from local branches of any nationally recognized medical specialty group, etc.
   c. Problems arising in any committee which seem to be properly the province of a component County Society can be considered by the members of that committee from the county in question and need not be considered by the state group as a whole.
3. Informing the general membership of committee action or areas of discussion and seeking the comments and guidance of the general membership are still problems which may have to be resolved by confining most or all County Society meetings to businss or non-scientific matters.
4. There is strong feeling that the State Medical Society should become involved in committee activities now presently being done by committees in each individual hospital in the state. Medical Records and Peer Review and Utilization are three obvious such areas of interest.
5. Non-medical staff of the Medical Society could have its duties more clearly defined with consolidation. Additional staff may be advisable together with a near inevitable increase in society dues.

The above recommended changes plus others could be affected under the present organizational set-up. There is also some strong feeling that desired changes could be effected most expeditiously by eliminating all the County Societies as they now exist and have remaining only a single State Society — perhaps with two or three geographic divisions. Regardless of the method used, the intent is to reduce duplication of individual committee activities, by consolidation to increase the expertise of handling problems, and to increase participation and influence of individual society members.

The committee therefore recommends that a task force be appointed by the State President in consultation with the County Presidents for the purpose of refining and implementing these recommendations. It is suggested that the task force include representatives from all three County Societies and from recognized specialty Societies.

John H. Furlong, Jr., M.D., *Chairman*
L. M. Dobson, M.D. **H. T. McGuire, M.D.**
O. Keith Hamilton, M.D. **I. J. Tikellis, M.D.**

COMMUNITY COUNCIL ON EMERGENCY SERVICES

During the past twelve months, the Community Council on Emergency Service has met at frequent and regular intervals, and much has been accomplished during this period of time. It has actively participated in a variety of enterprises, as well as the completion of the 10 Code for the New Castle County Ambulances. There is a good possibility that this might be accepted by the city and county police departments in the near future. The Council has kept abreast of the training of units for rescue vehicles, the ambulance certification, training program for ambulance drivers, and a variety of changes in the city, county, and hospital traffic patterns.

The Community Council on Emergency Services is actively involved in preparing a symposium on disaster which hopefully will be held this fall. The Council has enlarged its membership since it is our feeling that all those organizations in the local community that could be easily involved in the face of disaster should be asked to actively participate in it. We have had very good response, and enclosed is a list of the present membership with the organizations they represent.

The Council has made contact with the three County Medical Societies, asking for the opportunity of letting one of our members address their societies to explain to them the purpose of these committees and the need for their medical participation.

L. Mario Garcia, M.D.
Representative of the Medical Society of Delaware to the Community Council on Emergency Service
Alfonso P. Ciarlo, M.D.
Albert Dworkin, M.D.

Mr. W. J. O'Rourke
Director of Public Safety
City of Wilmington
Public Building
Capt. E. T. Mort
Department of Public Safety
Bureau of Police
Wilmington
Mr. J. W. McCloskey, Director
Department of Public Safety
Division of Civil Defense
Delaware City
Col. G. J. Bundek
State Police Headquarters
Dover
Chief J. J. Malloy
Wilmington Bureau of Fire
Capt. W. F. Bishop
Troop 1, State Police
R. C. Templer, President
Delaware Association of Nursing Homes
Mrs. Edith Kendall, R.N.
American National Red Cross
Delaware Chapter
A. B. Lank, Esquire
1118 Wilmington Trust Building
Wilmington, Delaware, 19801
Delaware State Bar Association
T. Alatur, M.D.
Professional Building
(Psychiatric Representative
Medical Society of Delaware)
A. A. Golden, D. O.
(Osteopathic Representative)
P. J. Mette, M.D.
(Anesthesiological Representative
Medical Society of Delaware)
L. M. Garcia, M.D.
Representative of State
Medical Society
A. P. Ciarlo, M.D.
(Medical Representative
Medical Society of Delaware)
A. Dworkin, M.D.
(Obstetrical Representative
Medical Society of Delaware)
T. B. Strange, M.D.
(Committee on Trauma
American College of Surgeons)
C. W. Michell, D.O.
1320 Philadelphia Pike
Wilmington, Delaware
S. S. Morovati, M.D.
(St. Francis Hospital
Representative)
Capt. H. Snedeker
New Castle Ambulance Service
N. Ward, Chief Dispatcher
New Castle County Ambulance
Service
H. R. Cooper, Administrator
Riverside Hospital
Mr. W. Cannon
St. Francis Hospital
Middletown Fire Company
Middletown
Wilmington Manor Fire Companv
New Castle
Port Penn Fire Company
Port Penn
Belvedere Fire Company
Wilmington
Cecil County Fire Headquarters
Elkton, Maryland
Sgt. Janvier Husfelt
Wilmington City Police
Traffic Division
C. A. Depfer, D.O.
(Delaware State Osteopathic
Medical Society)
Mr. Thomas Legg
Capt. Howard Sheldon
Personnel Training Officer
Mr. George Mycock
Wilmington Medical Center:
  Mrs. A. Ferreira, R.N.
  Nursing Office — Delaware Division
  Miss L. Eskridge, R.N.
  Nursing Office — Memorial Division
  Miss R. Smith, R.N.
  Nursing Office — General Division
  K. Farrow, R.N.
  Nursing Office — Pelleport Division
  Mr. C. R. McGinnis

Administrative Assistant for
Emergency Services
Mrs. J. C. Wright, R.N.
Supervisor of Planning and
Special Services
Mr. V. E. Curran, R.N.
Emergency Services Supervisor
Mr. E. M. Ainscow
Supervisor of Transportation
Mrs. R. Campbell, R.N.
Emergency Head Nurse
General Division
Mrs. L. Donahue, R.N.
Emergency Head Nurse
Delaware Division
Mr. E. B. Crawford, Jr.
Vice President for
Administration
Mrs. P. A. Bennett
Administrative Assistant for
Outpatient Services
L. P. Lang, M.D.
Sister Thos. Francis
Emergency Supervisor
St. Francis Hospital
M. A. Mulrooney, R.N.
Emergency Head Nurse
St. Francis Hospital
Mr. Kline Kemp
Project Director
State Board of Health
Mr. L. Amabili, Director
Delaware State Fire School
Mr. H. Grant
Delaware State Fire School
Mr. J. Cunningham
(President, New Castle
County Volunteer Fire
Association
Mr. R. Stone
Volunteer Ambulance and
Rescue Committee
Mrs. Anne Shane
Executive Director
Medical Society of Delaware
H. M. Baganz, M.D.
President, Medical Society
of Delaware
Mr. D. K. Hill
New Castle County Police
Mr. E. Syrovatka
Executive Director
Academy of Medicine
Newark Fire Department
Newark
Brandywine Hundred Fire Co.
Wilmington
Christiana Fire Co.
Christiana
Claymont Fire Co.
Claymont
Cranston Heights Fire Co.
Wilmington
Delaware City Fire Co.
Delaware City
Elsmere Fire Co.
Wilmington
Five Points Fire Co.
Richardson Park
Wilmington
Goodwill Fire Co.
New Castle
Hockessin Fire Co.
Hockessin
Holloway Terrace Fire Co.
New Castle
Millcreek Fire Co.
Marshallton
Minquadale Fire Co.
New Castle
Minquas Fire Co.
Newport
Odessa Fire Co.
Odessa
Talleyville Fire Co.
Talleyville
Townsend Fire Co.
Townsend

COMMITTEE ON CONTINUING EDUCATION

At their December 9, 1971 meeting the Board of Trustees of the Medical Society of Delaware approved the development of a documentation program for continuing education with the following anticipated advantages for members:

1. Maintenance of physician competence.
2. Voluntary, non-threatening form of self-improvement
3. Containment of the upward thrust of liability costs

The Board directed the Continuing Education Committee to submit a proposal to the Society. The proposal follows.

Continuation Study Requirements

Each Medical Society of Delaware member must complete 150 hours of postgraduate study every three years. Hours must be obtained from scientific medical sources as follows:

A. Hospital scientific meetings, staff, CPC and other formal programs. No hourly limits.
B. Formal postgraduate educational programs sponsored by medical schools, professional societies, etc. Hour for hour credit.
C. AMA or other national professional society annual scientific programs. Hour for hour credit.
D. Programmed instruction courses and medical school correspondence courses. These courses must be approved in advance by the Continuing Education Committee and credit will be allowed as specific for each particular course. Limit of 50 hours each three years.

E. Electronic audio-visual programs such as films, tape recordings, electronic video recordings, audi-video tapes, radio conferences are acceptable for credit. A personal affidavit will be acceptable for credit. Limit of 20 hours each year.

F. Reading of medical journals to be stated by name will be allowed not to exceed 20 hours credit per year.

G. Credit will be given for obtaining consultation with another physician. One hour will be credited for each consultation requested, up to five hours per year.

H. Presentation of an original scientific paper at local or other medical society or medical groups recognized by the Continuing Education Committee. Limit of 5 hours per paper.

I. Publication of an original scientific paper in a state or national scientific journal. Limit of 10 hours per paper.

J. Preparation and presentation of a scientific medical exhibit at the state level or above. Limit of 10 hours per exhibit.

K. Teaching medical students or physicians. Hour for hour, with a limit of 30 hours each three years to be certified by the recognized Director of Medical Education.

L. Continuing postgraduate preceptorships or refresher courses within teaching hospitals or university medical centers.
   1. The physician must be assigned patient care responsibility during the course of his training at the resident or student level, or receive individual instruction in patient care techniques.
   2. The member must submit a program schedule at completion of his sabbatical hospital experience certified by the hospital.
   3. The member must submit a brief summary and evaluation of this experience with a log of hours of instruction in patient care responsibility as teacher or student as prescribed above. Maximum 150 hours each three years.

M. Hours spent in postgraduate medical study in any other way may be submitted for consideration to the Continuing Education Committee on an annual basis each year in January of the year.

The Chairman continued to work with representatives from Jefferson Medical College, DIMER, and the State's hospitals to develop the Continuing Medical Education for Physicians Seminars, which were presented this year at Beebe Hospital, Kent General Hospital, Milford Memorial Hospital, Nanticoke Memorial Hospital and Riverside Hospital. Enrollment continued at a high level.

William H. Duncan, M.D., *Chairman*

C. Allen, M.D.	**G. B. Heckler, M.D.**
G. K. Berger, M.D.	**D. W. MacKelcan, M.D.**
G. Botte, M.D.	**M. Oz, M.D.**
J. Gelb, M.D.	**B. Z. Paulshock, M.D.**
R. C. Hayden, M.D.	**J. C. Straughn, M.D.**

DELAWARE POLITICAL ACTION COMMITTEE

The Delaware Political Action Committee has been reorganized this year with new by-laws, new officers, and new members. A Candidate Support Committee is reviewing candidates for state office in order to make recommendations for candidates who will be most likely to support good health legislation. At the September meeting it was decided to send letters to the physicians residing in Senator Dean Steele's district to urge their support of him in the election.

The total physician membership has been billed for DELPAC dues, and we are happy to note that more physicians are becoming politically oriented and interested in being dues-paying members of DELPAC.

Joseph A. Glick, M.D., *Chairman*

DRUG ABUSE COMMITTEE

Although the Committee has not met regularly, formally, we have been very encouraged by increased interest of physicians throughout the state in Drug Abuse prevention.

The appointment of a physician, William Duncan, M.D., to head the State Drug Abuse Division has been received with optimism. Continuing Education seminars have been held in Milford Hospital and one is scheduled for Nanticoke Memorial Hospital, Seaford, Delaware, September 7.

There has been increasing participation by New Castle County physicians in the Drug Abuse Service of the Wilmington Medical Center. Presently, five New Castle County physicians are working part-time at the Wilmington Medical Center's Drug Abuse Service.

Another questionnaire is being presently prepared to measure physician's attitudes concerning Drug Abuse throughout the state.

J. A. Glick, M.D., *Chairman*

T. M. Alatur, M.D.	**W. P. Omans, M.D.**
L. O. deBernard, M.D.	**W. J. Vandervort, M.D.**

ENVIRONMENTAL AND PUBLIC HEALTH COMMITTEE

The Committee on Environmental and Public Health met on approximately a monthly basis, however, the attendance was never 100%. The following position paper was formulated and approved by the Trustees of the Medical Society of Delaware. An in-depth study was attempted concerning the following subjects:

1. Tocks Island Dam.

The conclusion was that more study is needed before the definitive project is started (there seemed to be a discrepancy between river basin in the Commission report, the Army Corps of Engineers, and the ecologists).

2. Coastal Zoning Legislation.

The consensus was that this is in the best interests of the citizens of the state with the hope that amendments will be more restrictive and include housing as well as recreational developments.

3. Off-shore or bay unloading terminal for super oil tankers.

This was met with mixed opinion concerning the health hazard since most of the difficulty is with accidental spills, which cause damage to the terrain but not to the individual.

4. Sewage Treatment Plants.

This was considered in depth, and it was the consensus that all treatment plants should be of a tertiary type, should include any community of over 24 units and should appropriate a high degree of water tightness in drainage so as not to contaminate the ground water.

5. Lagoons.

These should meet required health standards or be condemned by the Division of Public Health and the land returned to its original state.

6. Nuclear Power Plants.

This problem was studied concerning the radio active and thermal waste, and the disposal and earth tremor threats. The main concern was that of radio active debris. This should be so controlled that the air and water radio activity remains at the background or basic level.

7. Because of an increase in public health problems, it was recommended that the budget for the Division of Public Health be increased so that at least twenty additional persons be hired to fulfill the needs for inspection and control over public water systems, swimming pools, bathing areas, plumbing installations, shell-fish growing areas, food-processing and serving establishments, institutions such as nursing homes, hospitals, day-care centers, camps, x-ray machines, barber-shops, and many more.

8. The general public health standards need upgrading particularly in the venereal disease program, revision of Chapter 33, Title 16, Food and Drugs which has to do with labeling, packaging, weights and measures and also Chapter 21, Title 16, concerning issuance of stamps on mattresses sold in the State of Delaware.

The Committee requests that a copy of the position paper and report be sent to Governor Peterson, Secretary of the Department of Health & Social Services, Herbert M. Baganz, M.D., and each of the legislators.

F. T. O'Brien, M.D., ***Chairman***

E. D. Bryan, M.D.
J. DeLaurentis, M.D.
E. F. Gliwa, M.D.
J. M. Hofford, M.D.
L. P. Lang, M.D.
G. R. Spong, M.D.
P. R. Walker, M.D.
H. F. Wendel, M.D.

FORMULARY ADVISORY BOARD

The physician members of the Delaware Formulary Advisory Board met on many occasions over the year both alone and with the pharmacy representatives. Many of the early discussions dealt with the apparent irresolvable differences of opinion between the physician members and the pharmacist members with regard to the proposed legislated Voluntary Formulary Board. The pharmacists had unilaterally supported the introduction of legislation in June 1971 which had passed the State Senate and was in committee in the State House. The physician members of the Formulary Advisory Board at that time had opposed this move, and the House of Delegates had supported their position in October 1971. Although the House of Delegates recommended that the Formulary Advisory Board be disbanded, a new group of physicians was appointed to the Board to continue the dialogue with the pharmacists and hopefully reach a mutually satisfactory consensus.

After long and thoughtful discussion the majority of the physician members of the Formulary Advisory Board came to the following conclusions:

1. That a voluntary formulary as a method to attempt to insure quality drugs at the least expense was a reasonable concept. The fact that the physicians and the pharmacist members of the Board had met regularly from 1967 to 1971 in basic agreement over the concept of a formulary lent support to this opinion. It was felt that the State of Delaware represented an area of workable size to try such a concept. In addition a motivated and talented group of pharmacists had already demonstrated that they were willing to work with the physicians toward developing a formulary of high standards.

2. That legislation was probably necessary to insure that the members of the Voluntary Formulary Board would not be involved in antitrust litigation initiated by a pharmaceutical manufacturer. The reality of this risk was supported by a written legal opinion from the law firm of Morris, Nichols, Arsht and Tunnell.

3. That the thoughtfully worded legislation introduced into the State Legislature seemed reasonable if it was assured that adequate measurements would be made to assess whether cost savings would occur under this system and if a paragraph relating to competitive bidding were eliminated.

This report was presented to the Board of Trustees of the Medical Society of Delaware on two occasions and rejected after some discussion. The Board of Trustees reiterated their opinion that they felt legislation was not necessary for an effective Formulary to be developed. The Delaware Voluntary Formulary Advisory Board then reported to the legislators that agreement could not be reached with regard to the proposed formulary legislation, and the bill died in committee in the State House.

Since then the Secretary of Health and Social Services has asked that the Delaware Formulary Advisory Board assist in the development of a Formulary for inpatient and outpatient services of the Department of Health and Social Services and for recipients of Title XIX of the Social Security Act. This would seem to be a reasonable alternative to legislation in that such a program would derive its authority from the State and would not violate anti-trust laws. However, to accumulate the large amounts of data to allow the Board to select a formulary of high quality would necessitate funds for at least a part-time staff. Had the legislation passed, it was understood that a grant from the Department of Health, Education and Welfare would be approved for this purpose. Apparently, this grant would not be applicable if the formulary were developed under the state aegis. Because of this, the chairman of the pharmacy members of the Delaware Formulary Advisory Board has resigned. Unless adequate funding to provide appropriate staff to accumulate the necessary data so that the Board could make knowledgeable decisions as to drugs to be included in a formulary is forthcoming, it would appear that the formulary concept as developed through the cooperation of physicians and pharmacists over the last five years is probably "dead."

Whether or not the formulary can be revived, the the physician members of the Committee believe that a group of physicians should continue to meet with a group of pharmacists to discuss the many issues of joint interest. The problems of health care are great, and more cooperation rather than less between the two professions is essential to their solution.

Vincent DelDuca, Jr., M.D., ***Chairman***
Physician Members Delaware Voluntary
Formulary Advisory Board
R. B. Crabb, M.D. **R. A. Kahlbaugh, M.D.**
K. K. Kimura, M.D.

GRIEVANCE COMMITTEE

The Grievance Committee of the Medical Society of Delaware is pleased to report to you that no business has been brought before this committee during the current year.

This is the fifth consecutive year that the State Society Grievance Committee has not been called upon, and the County Society Grievance Committees are again congratulated in the State of Delaware for doing their job so well.

Daniel J. Preston, M.D., ***Chairman***
R. J. Bishoff, M.D. **C. M. Moyer, M.D.**
H. H. Stroud, M.D.

HEALTH CARE DELIVERY COMMITTEE

The Health Care Committee is a very broad-based committee working through nine separate Task Force Chairmen met once during the year for a resume of the status of each Task Force and the plans for the year. An earlier Task Force on Maternal-Child Health Care Facilities and Preventive Health Care Centers and Programs was discontinued. It was replaced by a one-man Communications Task Force headed by Harold Rafal, M.D., who planned to establish contact with different committees and groups involved in health planning at any level in which doctors are serving, to get periodic reports of proposals and actions taking place, to collate the information and distribute it to County and State Society Executive Committees. The actions of each of the nine Task Forces are the substance of this report.

The Health Care Delivery Committee is anxious to have all physicians in Delaware assist in planning for a more adequate health care deliverv system that will assure that every citizen of the State receives quality health care. The Committee functions under the premise that it is a clearing house for the collection of information that will be shared with other groups active in the area of health planning with the objective of ultimately providing the State of Delaware with an exemplary Health Care Delivery system.

Task Force #1
Population Growth and Control — Family Planning

Within this Task Force there are several activities to be reported for the year:

1. William Slate, M.D. became Director of the Department of Obstetrics and Gynecology of the Wilmington Medical Center, and he has a strong interest in the area of population growth and control.

2. The Planned Parenthood Clinic in Wilmington provides the largest Abortion Counseling Services in the State. From July 1970 through September 30, 1972 Planned Parenthood referred 1,158 patients. 806 were referred out of State, and 352 were referred directly to the Wilmington Medical Center or private Delaware physicians. The majority of abortions performed in the State of Delaware were performed in the Wilmington Medical Center.

3. The Delaware Adolescent Program Incorporated, which has operated effectively in Wilmington for a considerable period of time, had now opened two down-state programs which are becoming active. Since no pregnant student in Delaware is required to leave school involuntarily, there is an apparent trend toward more students staying in school despite pregnancy. A great number of these students use DAPI's medical and child care programs. Any student still withdrawing from school may continue her education in the DAPI program. Approximately 95% of the students that delivered in the DAPI Program have returned to school after delivery.

4. Complete family planning counselling and services are now being offered by the Department of Obstetrics and Gynecology of the Wilmington Medical Center. Planned Parenthood is participating ac-

tively both with the Department and with Delaware Adolescent Program Incorporated to provide these services. $100,000 of State funds have been allocated for family planning services with an estimated $300,000 in matching Federal funds.

William D. Johnson, M.D., *Chairman*
M. V. Andersen, Jr., M.D.
F. I. Hudson, M.D.
J. W. Maroney, M.D.
M. J. McKusick, M.D.
M. H. Mires, M.D.

Task Force #2
Careers Development and Training — Allied Health Personnel

Dr. Esterly because of increasing family responsibilities was forced to resign as Task Force Chairman on July 1, 1972. The Medical Society had the Medical Practice Act amended to exempt "any person rendering medical, surgical, or health services if such services are rendered by such person under the supervision and control of a physician or surgeon licensed" from the provisions of the Medical Practice Act. In effect this allows Physicians' Assistants to work in the State. There still remain three concerns:

1. The Board of Medical Examiners must provide a method whereby the qualifications of the Physician's Assistant may be reviewed and the individual certified for practice.
2. A more formal definition of the scope of practice more formal guidelines as to the duty of the Physician's Assistant must be developed.
3. A committee of the Board of Medical Examiners must review the training programs that are available for Physicians' Assistants and establish guidelines for any training programs developed in the State of Delaware.

K. L. Esterly, M.D., *Chairman*
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Dean M. Carl
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R. B. Flinn, M.D.
R. W. Frelick, M.D.
E. F. Gliwa, M.D.
L. P. Lang, M.D.
D. A. Levitsky, M.D.
M. J. McKusick, M.D.
C. B. Middleton, M.D.
B. Z. Paulshock, M.D.
C. L. Reese, III, M.D.
D. J. Reinhardt, III, M.D.
L. Rosenbaum, M.D.

Task Force #3
Education, Supply, and Distribution of Physicians in Delaware

The Task Force on The Education, Supply, and Distribution of Physicians reviewed an extensive survey entitled "Comprehensive Health Planning in Delaware" prepared by the University of Delaware, Division of Technical Services, and completed August 1971. It was noted that strictly from a numerical standpoint, Delaware does not appear to have a shortage of physicians (130 doctors/100,000 population, which is comparable to the national average of 132/100,000). Speculative estimates on an historical trend plus the number of physicians estimated coming from the University of Delaware/Jefferson Medical College/Wilmington Medical Center program should produce an adequate number of physicians by 1980.

However, many factors enter into the question of the adequate delivery of health care other than numbers of physicians. Several major areas of concern are:

1. Distribution of physicians in the State
2. Decreasing numbers of primary physicians
3. Future ways of how health care will be delivered other than the direct patient-physician relationship (paramedical personnel, multiphasic screening etc.)

These things make it unrealistic to simply estimate the "numbers" of physicians that might be needed by 1980. Our present problems in the delivery of satisfactory health care do not seem to be the inadequate numbers of physicians in the State, but are related to the reduced numbers of primary physicians providing care and lack of physicians in certain rural areas and some areas of Wilmington.

The committee is presently in the process of obtaining information from various major State specially organizations and the Academy of Family Physicians pertinent to:

a. Main problems in their area of health care delivery
b. Solutions to present problems
c. Kind of personnel needed
d. Estimate of present needs in terms of numbers of physicians
e. Estimate of needs and numbers by 1980

A preliminary report at this time indicates that there is not a shortage of general surgeons. Reports from all other groups are not available or conclusive at the time of this report.

G. B. Heckler, M.D., *Chairman*
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K. Anstreicher, M.D.
R. J. Bishoff, M.D.
N. L. Cannon, M.D.
H. Dowling, M.D.
J. J. Egan, M.D.
L. B. Flinn, M.D.
R. B. Flinn, M.D.
L. P. Lang, M.D.
D. A. Levitsky, M.D.
D. E. Saunders, M.D.

Task Force #4
Comprehensive Health Care Centers — Family-Oriented or Group Practice and Health Care for Disadvantaged Groups and Areas

In the previous several years many segments of the community have been looking toward organized groups of medicine for the resolution of their unmet needs for medical care.

As a consequence several largely uncoordinated health centers have been established in northern New Castle County, mostly in the predominantly black communities of Wilmington. Two groups of private physicians, SMAC and Northeast Medical Group

Association, have established themselves, largely on a voluntary basis. The Delaware State Department of Health and Social Services, through its Neighborhood Health Centers Division, has recently established an office in the Model Cities area of Wilmington, staffed by a full-time physician. More recently the duPont Company through the direction of Dr. Joseph Rule has established a private practice on the East Side of Wilmington. The duPont Company is providing "seed" money, providing a guaranteed income for a period of several years in an attempt to show the financial feasibility of such a practice. It is anticipated that a group practice can develop in this fashion.

However, it is all too apparent that an overall direction is sorely needed to define the needs, the area of needs, the financial planning, the administrative structure, the medical personnel, the ancillary support, the third party fiscal coverage where needed, ongoing objective evaluation, and peer review.

It is generally agreed that primary care should be made available as outreach programs in the community and not in the hospital environment. Furthermore primary care should be rendered on a 24-hour basis by the primary physicians, and not all physicians are suitable for this service. In order to be permanent and successful this service must be indemnified with fee-for-service or capitation payment rather than on a voluntary or free basis.

The lack of primary care, though more acute in the indigent areas, can also be found in areas of relative affluence. Consequently the program should be broad enough to provide services where needed. Indeed planning should include primary care centers for all and not separate structures of welfare medicine. Varied and diversified programs are needed.

It would seem advisable that mental health facilities as well as other disciplines such as health education, family planning, drug control, and laboratory facilities be included, so as to provide as comprehensive services as deemed necessary.

The crucial problems of primary physician supply was considered at length, and at least one member (Doctor Corbalis, Director of Doctors for Emergency Service) maintained that no real shortage exists, rather that it is a matter of poor utilization and maldistribution. It was suggested that primary care be provided in satellite centers during "regular hours" with centralization of primary care during "off hours," thus maintaining 24-hour coverage. It was also pointed out that a relatively large pool of primary physicians exists in the general medical clinic of the Wilmington Medical Center. Discontinuation of these clinics, generally agreed by most physicians as a desirable goal, would make this large pool of primary physicians available for neighborhood health centers.

Utilization of physician assistants and other paramedical personnel would alleviate any shortage and assist primary physicians. The Visiting Nurse Association of Wilmington has inaugurated a nurse-clinician program providing screening health service and health education administered by registered nurses assisted by professional and paramedical staff.

How is such a complex program to be structured? The consensus of the Task Force is that an independent, not-for-profit corporation to include representatives of the consumers and providers of medical services as well as fiscal intermediaries and health planning organizations be established. The function of this "umbrella" corporation would be primarily administrative, such as organizing programs, determining priorities, establishing funding, etc.

It is recommended that the Medical Society

1. Support and participate in the operation of this corporation;
2. Function as a central planning and coordinating agency for physician manpower;
3. Use its moral and persuasive power to enlist the full cooperation of its membership toward the fulfillment of this goal.

Jack Gelb, M.D., *Chairman*

C. Allen, M.D.
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J. L. Campbell, M.D.
W. H. Comer, M.D.
Mr. L. Davis, Cons.
C. I. Glassman, M.D.
E. R. McNinch, M.D.
A. J. Morris, M.D.
C. S. Riegel, M.D.
B. B. Rose, M.D.

Task Force #5

Task Force on Aging

The Task Force on Aging composed of physicians and representatives of various agencies and disciplines involved in the geriatric field met two times. The initial meeting was organizational to identify problems and assign committees to consider them. The second meeting was held to hear reports of the sub-committees and to evaluate them. The second meeting was held to hear reports of the sub-committees and to evaluate them. Sub-committees were operative in the following areas:

1. Pastoral care of the elderly
2. Bed space
3, Communication needs of the aged
4. Assessing the competence of the aged to live alone
5. Physical examination of the elderly
6. Occupational and physical therapy; maintenance of good health
7. Nutritional needs
8. Kent County needs
9. The need for and possible location of a northern "Smyrna"
10. Evolving standards for design and furnishings of apartments and homes for the elderly
11. Need for the availability of short-term and long-term beds for the geriatric indigent

In addition, the Chairman met twice with the geriatric section of the Delaware Nurses' Association. The need for liaison between the hospitals and nursing homes was discussed. It was also felt that the nursing home should retain a staff physician to call upon if the patient's own physician is unable to be reached.

W. D. Shellenberger, M.D., *Chairman*

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J. W. Barnhart, M.D.
Mrs. D. Butler
Miss J. Cadman
Miss E. B. Chetkowska
Rev. C. L. Fulmer, Jr.
C. F. Gutierrez,, M.D.
Mrs. C. B. Hearne
Mrs. L. Jones
Mr. D. P. Lee
G. B. Lyons, D.D.S.
Mr. M. Milbouer
Mr. S. McKay, Jr.
Mr. W. Osipoff
B. B. Rose, M.D.
A. R. Shands, Jr., M.D.
Chaplain L. Swanson
Mr. R. Templer
Mrs. K. Wildt
Mrs. K. Wilson

Task Force #6
Ambulatory Health Care Facilities Development

The ambulatory Health Care Facility Committee did not have an opportunity to meet during this past year so no official report is available. However, the Chairman wishes to report some of the new developments which have occurred during the past year relating to ambulatory health care facilities in Delaware.

State Service Centers under the Department of Health and Social Services have been opened in Northeast and Model Cities in Wilmington and in Belvedere in New Castle County, where ambulatory health care is provided.

Three additional health care facilities are in the planning and construction phase. The Floyd I. Hudson Center in Newark and the Thomas Collins State Service Center in Dover are being constructed with state funds under the Department of Health and Social Services and are expected to be operational in early 1974. The Pyle Center will be constructed in Baltimore Hundred with funds made available from the Pyle Estate. This Center will become operational in late 1973. With these new facilities health and social services will be more readily available to the citizens of our state.

Edward F. Gliwa, *Chairman*

R. C. Corbalis, M.D.
Mr. L. Davis, Cons.
L. O. deBernard, M.D.
W. H. Duncan, M.D.
Mr. C. T. Foster, Cons.
J. Gelb, M.D.
M. S. Hurm, M.D.
B. Z. Paulshock, M.D.
H. H. Stroud, M.D.

Task Force #7
Extension of Hospital Facilities and Services Into Neighborhoods

This Task Force held no formal meetings during the past year. Inquiries were made by the chairman through members of the Board of Trustees of the Medical Society of Delaware and physicians participating directly in community activities, and it was determined that within each county, each medical society has active and almost daily ongoing programs within the scope of the design of this Medical Society of Delaware Task Force. With this in mind, the chairman alone has accepted reports and attended meetings throughout the State to monitor the activities of each of these county groups of physicians and to provide through the office of the Medical Society of Delaware, and its individual members, as well as the officers, individual fragmentary and current reports considering such activity. Any specific move to act in this area at this time by the Medical Society of Delaware would be a specific duplication of other activities of physicians throughout the State.

William H. Duncan, M.D., *Chairman*

K. Austreicher, M.D.
Mr. L. Davis, Cons.
K. L. Esterly, M.D.
J. F. Hughes, M.D.
C. I. Glassman, M.D.
B. Z. Paulshock, M.D.
H. H. Stroud, M.D.

Task Force #8
Development of a Plan for a Prepaid Group Medical Practice

The work of this task force has culminated in the establishment of a foundation, which has drawn up its by-laws and is becoming incorporated. The functions of this foundation will be discussed as a separate item.

D. Platt, M.D., *Chairman*

H. M. Baganz, M.D.
J. Beebe, Jr., M.D.
J. E. Belgrade, M.D.
R. J. Bishoff, M.D.
C. A. Depfer, D.O.
R. B. Flinn, M.D.
Mr. C. T. Foster
J. Gelb, M.D.
J. J. Giliberto, D.O.
C. E. Graybeal, M.D.
Mr. R. Griffith
A. L. Ingram, Jr., M.D.
Mrs. A. Jackson
W. O. LaMotte, Jr., M.D.
R. Lennihan, Jr., M.D.
Mr. R. McCoy
M. J. McDermott, Jr., M.D.
H. S. Rafal, M.D.
D. L. Schafer, M.D.
H. H. Stroud, M.D.
Mr. J. P. Tyler

Task Force #9
Communications Task Force

From the viewpoint of clinicians and community physicians, the impact of physician participation in health planning in Delaware is negligible.

Though there are physicians listed in all or most of the planning bodies of the state, their influence is minimal. I list some of the reasons for this.

1. It is difficult to recruit busy community physicians for these jobs. A review of those physicians who are involved reveals that some of them serve on two or three or even more committees.

2. Because practicing physicians are already overburdened, many of the M.D.'s on these bodies are physicians who have full-time salaried jobs which

allow for easier participation. However, their viewpoint frequently differs from that of the community physician, and candidly the fact that they are full-time and salaried indicates that their attitude and philosophy of medical care is significantly different from physicians who deliver one-on-one medical services.

3. Since planning bodies are dominated by salaried administrative types, it is almost routine that meetings are called during the peak work periods of morning and afternoon and frequently at some distance from the practicing physician member. For an administrator, going to meetings *is* their job. For a practicing physician, going to meetings means leaving the job, and therefore his participation usually becomes sporadic.

4. The contribution, or "input" to use the current jargon, made by the community physician most frequently is politely received and totally ignored.

Therefore, after several years of participation in many of these planning agencies at local, county, and state levels, I can no longer hope that we can exert a beneficial influence on the planning process or, through participation in the process, evolve improved medical care.

We are simply out-manned and out-gunned. Ironically, when these expensive and time-consuming planning procedures labor mightily and bring forth a mouse — or a Frankenstein's monster — the physician will almost certainly receive the major burden of condemnation. We are the most visible part of medical care and the most obvious target for reproof, especially since nominally we did participate or at least our names appeared on the lists of the committees.

Thus far there is little that is new or news in this report. However, I would like to submit a proposed course of action. I propose that we embrace the proposition that what is best for the public is best for us. It is, therefore, herein recommended that an ad hoc committee be appointed by the Medical Society of Delaware to prepare a list of basic problems and areas of investigation which affect the delivery of medical care and health maintenance. Blue ribbon commissions of able, concerned citizens *without* conflict of interest should then be established by any proper mechanism to investigate, report, and recommend. Since physicians may be challenged as having conflict of interest, it may be best if they serve only as resource people to such commissions.

In short, we need help desperately, and I can see no source of help except in a concerned citizenry. We have been judged harshly of late. It is time that detrimental influences outside the medical profession be exposed to the same intense scrutiny and harsh judgment and correctives be applied to all.

Harold S. Rafal, M.D., ***Chairman***

Henry H. Stroud, M.D., ***Chairman***
Health Care Delivery Committee

LIABILITY INSURANCE COMMITTEE

The activities of the Liability Insurance Committee have been primarily directed in the past year towards the evolution and implementation of the program established jointly by the Medical Society and the Aetna Life and Casualty Company. This program has been in effect for approximately nine months and seems to be working out as well as had been hoped.

The primary immediate effect of this program has been to make liability insurance available to all members of the society, with particular reference to new members, who would have had great difficulty obtaining coverage without this program. Up to this point, there has been no new member of the society refused coverage under the program.

The district claims review panels have been tentatively organized, but thus far they have not been called upon to review any claims. One panel has been organized for New Castle County, and a second has been designated to cover both Kent and Sussex Counties.

The only criticism of the program heard up to the present time is that the premium rate seems to be somewhat higher than some of the members are paying for coverage by other companies. Under this program, there is no obligation for any member of the society to switch into the Aetna program if he can obtain similar coverage at lower rates from his present carrier. In addition, the Aetna program is designed to pass back to participants, after a suitable experience has been accumulted, any excess premiums in the form of dividends. Whether this will be the case depends entirely on what the claims experience of the program will be over the next several years. The premium rate for next year will not be raised, which means the program will have a rate which has been stable for thirty-three months. In addition, the surcharge for partnership coverage is to be reduced 50%.

The Liability Insurance Committee has every confidence that the program with Aetna will continue to be as successful as we initially hoped.

It is our recommendation that the society continue to endorse this program and participate in it.

James B. McClements, M.D., ***Chairman***

O. S. Allen, II, M.D.	**D. A. Nelson, M.D.**
D. G. Durham, M.D.	**R. W. Powell, M.D.**
M. Gibbs, M.D.	**D. E. Saunders, M.S.**
J. Lewis, M.D.	**I. J. Tikellis, M.D.**

A. Zimmerman, M.D.

MATERNAL AND CHILD CARE COMMITTEE

A system for reporting maternal deaths has been developed jointly with Catherine B. Middleton, M.D., Director of Maternal and Child Care, State Division of Public Health, that should prove accurate. The previous difficulties with reports from Dover Air Force Base have been resolved, and cooperation in the past year has been outstanding.

There were two maternal deaths in Delaware between July 1, 1971, and July 1, 1972. One was at the Wilmington General Division, one at Dover Air Force Base. Both were reviewed at the respective institutions and by this committee. Both maternal deaths were classified: obstetrical, non-preventable.

Future meetings of the maternal mortality will be on an as-required basis.

Despite the danger of drawing conclusions on small numbers comprising a data base, the first two years of the present decade have shown a continued decrease in maternal mortality in the State of Delaware. For the two years our mortality rate is slightly lower than the national average.

Standardization of Neonatal Mortality Statistics (Recommendation of AMA House of Delegates)

Resolution N resulted from a study initiated by the AMA Board of Trustees on international comparisons of infant mortality statistics. The report was prepared by the Committee on Maternal and Child Care after a thorough study of such statistics.

The Delaware Task Force endorses the concept of uniform reporting throughout the State of Delaware. The committee suggests that Doctor Slate, Doctor Rosenblum, and Doctor Paul Lewis (HUP) might be asked to jointly develop a reporting system within the HUP structure which would be applicable to all hospitals in the State of Delaware. Close consultation with representatives from departments of obstetrics and pediatrics in Kent and Sussex counties would help implement such a system.

Illegitimacy in Delaware

The total number of illegitimate births in Delaware has trended downward for two years. Final figures will be available at the end of the calendar year and compiled with total viable births and abortions.

Child Diagnostic Center of the Alfred I. duPont Institute

The Diagnostic Center has become an integral part of the Institute. Doctor Stroud continues as director. While probably not unprecedented, seeing a federally funded project become private in its funding is unique.

Cytogenetic Diagnostic and Counselling Services

Both the Alfred I. duPont Institute and the Wilmington Medical Center Department of Pediatrics are fully operational and are accepting referral in the important area of cytogenetics. Both diagnostic and counselling services are available at each institution.

Abortion Referral Patterns in the State of Delaware

At the meeting of Task Force Chairman on December 8, 1971, some members expressed surprise that most Delaware patients were being referred to out-of-state facilities for therapeutic abortion. There is no way to determine the number of Delaware patients who are aborted in other states.

However, the Planned Parenthood Clinic in Wilmington is probably the largest abortion counselling service in the state. Since July, 1970, they have kept records indicating where they have referred patients for abortion. From July, 1970, through September 30, 1972, Planned Parenthood has referred 1,158 patients. Eight hundred and six were referred out-of-state, and 352 were referred directly to the Wilmington Medical Center or to Delaware private physicians.

The majority of abortions performed in the State of Delaware were performed in the Wilmington Medical Center. Current abortion statistics are presented below (Table I). The most recent eleven-month figures from Planned Parenthood regarding abortion referral are also presented (Table II).

TABLE I

Wilmington Medical Center
January 1, 1971 to December 31, 1971

	LIVE BIRTHS	THERAPEUTIC ABORTIONS
1970	6,357	522
1971	5,956	1,042

TABLE II

Planned Parenthood Clinic Referral
for Abortion Services
October 1, 1971 to September 30, 1972

MONTH	OUT OF STATE FACILITY	WMC	PRIVATE PHYSICIAN
October	39	8	11
November	32	6	8
December	19	10	10
January	38	13	16
February	28	3	16
March	40	13	18
April	24	16	14
May	44	14	16
June	43	12	14
July	53	17	7
August	56	10	10
Totals	*416	*112	*140

*Eleven month totals.

Delaware Adolescent Program, Incorporated

The program in Wilmington is well established and more closely affiliated with Wilmington Medical Center. By contract, the Center now provides medical coverage for the obstetrical patient under direct staff supervision for both prenatal and hospital care.

The two downstate DAPI programs are operating. The day care center in Dover will open soon, and space is available in Sussex County if the need for day care arises. All three DAPI educational programs are sponsored by local school districts as of this fall.

By law, no pregnant student in Delaware is required to leave school involuntarily. There is an apparent trend toward more students staying in school despite pregnancy. Some of these are using DAPI's medical and child care programs. Many students still withdraw from school but continue their education in the DAPI program during their pregnancy.

Undoubtedly, some simply "drop out," but pregnancy is no longer so palpable a factor as it was two to three yars ago.

Approximately 95% of the students that delivered in DAPI have returned to school after delivery. This figure is the highest reported "returned to school" rate from an adolescent obstetrical service in the United States.

Children's Bureau of Delaware

A high-risk infant follow-up clinic comprised largely of former premature infants has been developed at Children's Bureau of Delaware.

The clinic is supervised by Katherine Esterly, M.D.

Lead Poisoning

Two separate lead detection programs have been initiated in the past year. A screening program supervised by Barbara Rose, M.D. with Federal funding has been initiated in the City of Wilmington. An evaluation program of patients "at risk" from possible lead poisoning has been initiated by Ali Z. Hameli, M.D. through the State Division of Public Health.

Family Planning Services

Complete family planning counseling and services are now being offered by the Department of Obstetrics and Gynecology of the Wilmington Medical Center. Planned Parenthood has participated actively both with the Department and the Delaware Adolescent Program, Incorporated, to provide these services. Doctor Middleton estimates that $100,000 of state funds have been allotted for family planning services with an estimated $300,000 dollars of matching Federal funds.

Comprehensive Health Care for Children

Of the sixty well-baby clinics in Delaware, five are now funded by Title XIX (Medicaid). Three are in New Castle county and two in the lower counties. All of these clinics are using more paraprofessional personnel. New activities include sickle screening and counseling services. Increased emphasis on detection of speech and hearing defects with appropriate referral has received high priority.

Legislative Action

House Bill #377 and House Bill #378 were enacted into law. These measures amend the Delaware Code RELATING TO CONSENTS TO HEALTH CARE OF MINORS and RELATING TO MINORS' CONSENT TO MEDICAL CARE.

William D. Johnson, M.D., *Chairman*

M. V. Andersen, Jr., M.D.
J. E. Benzel, M.D.
T. E. Chronister, M.D.
T. E. Dyer, M.D.
R. E. Erb, M.D.
K. L. Esterly, M.D.
P. Francisco, M.D.
J. B. Geissinger, M.D.
R. C. Hayden, M.D.
C. B. Hearne, M.D.
G. R. Hilty, M.D.
N. Kuseybi, M.D.
W. A. E. Leitzinger, M.D.
C. L. Minor, M.D
H. Rosenblum, M.D.
C. P. Turner, M.D.
R. Waterhouse, M.D.
O. S. Weaver, M.D.

MEDICAL ECONOMICS COMMITTEE

The Medical Economics Committee concerned itself with four areas of interest during the past year: namely, merger of the Medical Economics Committees of the Medical Society of Delaware and the New Castle County Medical Society; the Retirement Program sponsored by the State Society; Life Insurance, and Disability Income Insurance. The following are the objectives and recommendations of this Committee:

I. Merger of the Economics Committees
  A. Objective
    To study the feasibility of merging the county and state committees into a single committee providing more participation by all physicians in the state and eliminating duplication of effort.
  B. Recommendation
    1. That the Medical Economics Committees of the Medical Society of Delaware and the New Castle County Medical Society be merged into one committee.
    2. That the merged committee be composed of nine (9) members, five (5) from New Castle County and two (2) each from Sussex County Medical Society and Kent County Medical Society.
    3. a. That a Chairman be appointed from one of the counties and Vice-Chairmen from the remaining two counties.
       b. That the above appointments be made jointly by the President, of the Medical Society of Delaware and the President of the respective County Societies.
    4. That all meetings of the Joint Committee be attended by the Executive Director of the Medical Society of Delaware and the Executive Director of the New Castle County Medical Society.

II. Retirement Program
  A. Objective
    To evaluate the Retirement Program sponsored by the Medical Society of Delaware and administered by Pro Services Inc., who in turn manages Pro Fund.

B. Recommendation

1. The performance of Pro Fund has left something to be desired; however, in comparison to some other funds, it may over the long run do just as well. This committee would be reluctant to make a general statement recommending any specific changes the membership should make at this time.
2. Alternative options available to members participating in this program are as follows:
   a. Freeze their account at current status.
   b. Set up a private individual fund with a bank.
   c. Transfer monies now in Pro Fund to another fund.
   d. Set up an Insurance Annuity Program.
3. The committee rcommends that one physician participating in this program be appointed by the President of the Society to the Pro Service Advisory Board.

III. Life Insurance

A. Objective

To study the advisability of sponsoring a Group Term Life Insurance Policy for members of the Society.

B. Recommendation

That the State Society sponsor a Group Life Insurance Policy for members with a maximum benefit of $50,000. (The committee is in the process of working out the details of the best plan available which will be submitted to the Board of Trustees for approval in the near future).

IV. Disability Income Insurance

A. Objective

To study the feasibility of combining the existing County Medical Society and State Society plans into one policy which would provide all the benefits now existing and additional benefits not possible under the existing plans.

B. Recommendation

That the Society sponsor a combined Disability Income Insurance Plan as outlined above under objectives. (The committee is in the process of working out the details of the best plan available which will be submitted to the Board of Trustees for approval in the near future). One pre-requisite must be that all members now insured under an existing county or state plan would be automatically insured under the combined plan without further evidence of insurability.

Olin S. Allen, II, M.D., *Chairman*
H. Wilk, M.D., *Vice-Chairman*
C. L. Edwards, M.D.
J. R. Fox, M.D.
C. E. Graybeal, M.D
J. M. Levinson, M.D.
R. L. Meckelnburg, M.D.
R. W. Powell, M.D.
H. S. Rafal, M.D
D. Schetman, M.D.
I. J. Tikellis, M.D.

MEDICAL LOANS COMMITTEE

The Society's Medical Loans Committee met with the Academy of Medicine Student Financial Aid Committee for three meetings during the summer of 1972. The Society's available $2,000 was added to the Academy's working loan budget. The Chairman attended the July meeting, and Dr. Warren Johnson covered for him for the first of the two August meetings. We recommend that we continue to serve as a voting participant in the Academy's Student Financial Aid Committee which this year was chaired by George A. Zurkow, D.D.S. This year's receipients of Medical Society funds were Mr. Joseph Kuhn, Mr. Gary Owens, Mr. Alphonso L. Mack, and Mr. John R. Neil.

Gordon Keppel, M.D., *Chairman*
C. Allen, M.D.
J. E. Benzel, M.D.
E. S. Dennis, M.D.
J. A. Elliott, M.D.
W. R. Johnson, M.D.
C. Papastavros, M.D.
H. Wilk, M.D.

MEDICAL SERVICES INSURANCE COMMITTEE

The Medical Service Insurance Committee, formerly the Prepayment Committee, this year completed the new contract between Blue Cross and Blue Shield of Delaware, Inc. and participating physicians and recommended it to the Board of Trustees.

Our other activities included such things as settling disputes arising from the late recomputation of prevailing fees, and formulating the Title XIX Physician's Participating Agreement.

Much time was spent in reviewing the effect of Economic Stablization regulations, which imposed the 2.5% ceiling on physician rate increases.

The Committee recommended to the Board of Trustees that the Medical Review Committee remain a sub-committee of the Medical Services Insurance Committee, which the Board approved. Further, the Board of Trustees voted to submit to the House of Delegates our recommendation that these two committees be changed to standing committees.

The Committee has requested the Board of Trustees, and received approval, for funds to obtain a negotiating advisor to discuss fine points of contract negotiation.

For the future it will be the purpose of this committee to become more and more the main bargaining agent for the State Society in dealing with fiscal intermediaries.

R. W. Powell, M.D., *Chairman*
J. M. Levinson, M.D., *Vice-Chairman*
J. A. Arminio, M.D.
S. R. Kaplan, M.D.

J. Beebe, Jr., M.D.
J. H. Benge, M.D.
I. F. Chavin, M.D.
C. L. Edward, M.D.
J. J. Egan, M.D.
R. E. Erb, M.D.
J. A. J. Forest, Jr., M.D.
J. Gelb, M.D.
M. Gibbs, M.D.
A. A. Golden, D.O. ***Representative of Delaware State Osteopathic Medical Society***
C. E. Graybeal, M.D.
N. Kuseybi, M.D.
A. Lazarus, M.D.
M. McDermott, M.D.
R. L. Meckelnburg, M.D.
W. W. Moore, M.D.
C. Papastavros, M.D.
E. M. Phillips, D.O.
D. Platt, M.D.
O. Sluzar, M.D.
H. Taylor, M.D.
I. J. Tikellis, M.D.
L. W. Whitney, M.D.
H. Wilk, M.D.

MEDICAL REVIEW COMMITTEE

(Subcommittee of Medical Services Insurance Committee)

The Medical Review Committee has continued to operate as a subcommittee of the Medical Services Insurance Committee during 1971-1972. It has been recommended to make each of these committees a standing committee, and therefore their members would be elected.

The major function of the Medical Review Committee continues to concern itself with individual fee problems that arise among physicians, patients, and insurance providers, i.e. Blue Cross, Medicare, Medicaid, private insurance companies, etc. These differences arise when a physician, patient, or a provider feel that the payment or charges require adjustment. The physician always has the opportunity to appear before the Committee, to go to the Medical Service Insurance Committee on appeal, and finally to the Board of Trustees in that order when a problem cannot be resolved at one of the initial levels.

An effort has been made to eliminate as many independent fees as possible and aid in establishing standard fees for new or modified procedures as they arise. We now have better than 1900 procedures with a 90 percentile. It must be said that the Prevailing Fee Program is working well, that as time has passed, the work of the Medical Review Committee has diminished in volume but not in the importance of its purpose.

The Medical Review Committee met six times during the 1971-1972 year. A total of approximately 45 claims were reviewed. All cases were brought to the attention of the Committee by the Blue Cross-Blue Shield Plan's Medical Consultant, who thought that the case needed special or individual consideration, or directly from the attending physician or patient, who requested special consideration because of unusual circumstances surrounding the claim.

Conley L. Edwards, M.D., ***Chairman***

J. H. Benge, M.D.
J. Gelb, M.D.
I. F. Chavin, M.D.
J. M. Levinson, M.D.
W .W. Moore, M.D.
E. M. Phillips, D.O.

C. E. Graybeal, M.D.
A. Lazarus, M.D.
D. Platt, M.D.
L. W. Whitney, M.D.

COMMITTEE ON MEDICINE AND RELIGION

In many ways this has been a year of new beginning for the Medicine and Religion Committee of the Medical Society of Delaware. This year's report reflects continued growth and involvement of the Committee, as it represents before the State on behalf of the Medical Society, the close working relationship between medicine and religion. There has been an increase in activity and a continued strengthening of ties with the Department of Pastoral Care of the Wilmington Medical Center.

An up-to-date survey of activities follows:

1. A meeting of the Medicine and Religion Committee was held the second week of March, in the Private Dining Room of the Delaware Division. Those attending included the Chairman, Charles M. Bancroft, M.D., Chaplain Lynwood Swanson, and Staff of the Medical Society of Delaware.
2. A member of the Committee attended the Annual Meeting of the National Committee of Medicine and Religion of the American Medical Association held in New York City on February 26, 1972. At that time a report was given of the activities held in our State the previous year.
3. The series of lectures, sponsored by the Department of Pastoral Care of Wilmington Medical Center, with approval of the Medicine and Religion Committee of the Medical Society of Delaware, and given by Chaplain Swanson in the Auditorium of the Memorial Division, was successfully concluded the first of May. There was a fine response from physicians, clergymen, and health care professionals. The Chaplain plans to repeat this series during the coming year on the subject of "Anxiety." The Committee intends to participate as fully as possible, and to encourage the members of the Medical Society to attend.
4. The Chairman of the Committee and Chaplain Swanson delivered a condensed form of the lectures on "Death and Dying" in Seaford, Delaware, at the Layton Theatre. There was a fine attendance and a good response from those who were there.
5. The Department of Pastoral Care of the Wilmington Medical Center, with the approval of the State Committee, planned a Conference on the subject of "Death, Dying and Grief," to be held October 10th and 11th, at the Academy of Medicine. On the evening of October 11th, the Committee's Chairman, Charles M. Bancroft, M.D. will deliver the closing lecture in the DuBarry Room of the Hotel duPont.
6. Our Second Annual Prayer Breakfast is planned for the morning of October 21, 1972 in con-

nection with the 183rd Annual Meeting of the Medical Society of Delaware. It is to be held in the Dining Room of the Home of Merciful Rest.

7. The Chairman of the Committee and Chaplain Swanson, have been asked to speak at the Episcopal Church of the Ascension, Claymont, during the month of October, at which time they will discuss the work of the Committee of Medicine and Religion as it relates to the broader program of the Medical Society of Delaware.
8. During the past year, members of our Committee have spoken on subjects associated with Medicine and Religion at the following institutions:
   St. Joseph's Hospital, Reading, Pennsylvania.
   Salem County Hospital, Salem, New Jersey.
   The Layton Theatre, Seaford, Delaware.
   The University of Delaware, Newark, Delaware.
   The Quality of Survival Conference, sponsored by the Delaware Cancer Society, and the Visiting Nursing Association.
9. Finally, our Chairman emphasizes that this Committee believes successful patient care is total patient care. By way of illustration the Wilmington Medical Center Chaplain and the Chairman wrote a resume detailing how this is attempted at the Wilmington Medical Center, (Evening Journal 6/12/72). Simultaneously treating the illness, the total personality, and the spiritual aspect of the patient, a synergistic combination is created. The physician has the power of the prescription pad; the medically-oriented chaplain has his appreciation and understanding of the value and the power of the human soul. Thus, the committee has sought to emphasize that we as health care professionals are something *to* the patient, not just something *for* an illness.

We are grateful to be serving the Medical Society of Delaware in this manner and look forward with great anticipation to another fine year.

Charles M. Bancroft, M.D., ***Chairman***
J. B. Baker, M.D. **R. N. Taylor, M.D.**
W. J. Holloway, M.D. **R. H. Weiss, M.D.**
Janet Kramer, M.D. **The Rev. L. Swanson**
The Rev. M. Roark

Total Patient Care*

In his May 26 column, "Doctors Overlook Total Personality," Sydney J. Harris touched a sore tooth.

Three thoughts are to be emphasized: total personality, life setting and disease must be treated; labels are for "bottles," not patients; and the patient believes himself to be a specific person, not a "case."

The Wilmington Medical Center, through its Department of Pastoral Care, has taken a great step. It employs a full-time, (nondenominational) medically oriented hospital chaplain.

With the loss of the bedside touch and the appearance of the impersonal technician, patients have had no one to whom they can relate justifiable complaints and fears (spiritual, physicial, emotional and financial). Into this gap has appeared a relative newcomer: the medically-oriented hospital chaplain. He is visible manifestation of the hospital's dedication to total patient care.

Some visualize the hospital chaplain as one who generously dispenses religious leaflets from a cornucopia. Nothing could be further from actuality. Many fail to understand that the patient, the family, and hospital staff benefit by his availability.

The physician is frequently tangential to where the emotional action is. The impact reaches him most often by osmosis. He does not have continuous contact with the nitty-gritty of minutes ticking away.

Each person admitted to the Wilmington Medical Center receives a small leaflet from the Department of Pastoral Care. Here is a segment: "As you enter this hospital, be assured that our staff is concerned for you. We are dedicated to the healing of all persons. We are interested in you. We do not intend to change your mind, give you unwanted advice, nor force ourselves into your life."

The chaplain (or, family clergyman); the physician, the patient, the pain and the person are all players in the "drama." The patient is really the disease; pain is the offspring. The physician and the chaplain make a conjoint attack, treating the illness (patient), alleviating the pain, and helping the person and his family adjust to illness, dying, death, and grief.

Thus the Wilmington Medical Center is attempting to not only do something *for,* but be something *to* the patient.

Sydney J. Harris was right: treat total personality, the specific person.

He failed to include, however, the spiritual aspect. The physician has the power of the impersonal prescription pad. The clergyman's power is a personal appreciation of the value of the human soul.

Lynwood Swanson, ***Chaplain***
Wilmington Medical Center
Charles M. Bancroft, M.D., ***Chairman***
Medicine and Religion Committee
Medical Society of Delaware, Wilmington

*From the *Evening Journal,* Wilmington, Del. Monday, June 12, 1972

MEDICO-LEGAL AFFAIRS COMMITTEE

The malpractice screening panel of the Medical Society of Delaware and the Delaware State Bar Association has continued its activities this year. Both adverse and favorable decisions were reached.

Preliminary discussions with members of the Delaware State Bar Association were undertaken to explore the interprofessional relationships, exclusive of malpractice considerations. This re-examination of the day-to-day interaction of our two professions may lead to a revision of the Interprofessional Code of Ethics.

A uniform arbitration act has been enacted in Delaware. The full significance of this for doctors, particularly in malpractice actions, is not yet clear. The committee, with the help of the Society's attorney, Mr. William LaMotte, is examining this new and interesting development and plans to make information about it available to the members of the Society.

The deliberations of President Nixon's "Commission on Malpractice" have been followed closely. The implications of the Commission's investigation are so wide-spread that years will be required to realize their full importance.

Martin Gibbs, M.D., *Chairman*

J. A. Arminio, M.D.
G. K. Berger, M.D.
J. L. Campbell, M.D.
S. W. Casscells, M.D.
I. F. Chavin, M.D.
O. R. Cook, D.O.
Representative from the Delaware State Osteopathic Medical Society
W. B. Cooper, M.D.
C. E. Graybeal, M.D.
A. Z. Hameli, M.D.
R. C. Hayden, M.D.
E. R. McNinch, M.D.
R. L. Meckelnburg, M.D.
J. T. Metzger, M.D.
D. A. Nelson, M.D.
C. Papastavros, M.D.
R. W. Powell, M.D.
H. Rosenblum, M.D.
D. Schetman, M.D.
I. J. Tikellis, M.D.
R. H. Weiss, M.D.

COMMITTEE ON MENTAL HEALTH AND ALCOHOLISM

Activities of the Committee during 1971-1972 are as follows:

1. Conducted seminars and tutorial conferences for probation and parole officers on the subject of mental health, alcoholism, and related fields. This was on an experimental basis and financed by a private group of citizens.
2. Conducted seminars and tutorial conferences for Episcopal clergymen of the Diocese of Delaware. These seminars and conferences were held in Wilmington and in Seaford, Delaware.
3. Continues to assist in the development of the Mental Health Program at Ferris School. This has included assistance in the new building complex now under construction (private group of individuals involved in these services).
4. Consultational services to the Delaware Adult Correctional systems, at the Delaware Correctional Center, at the Sussex Prison, and at the Women's Prison in Wilmington.
5. Assistance to several private groups in the development of alcoholic programs in Wilmington and in the State.
6. Assistance, including consultational services, in the development of a mental health program for the Peninsula United Methodist Homes and Hospitals, Inc.
7. Assistance to several publications, one national and one state, in efforts to improve mental health programs, particularly efforts to strengthen healthy family relationships.
8. Assistance to the General Services Conference of Alcoholics Anonymous through private consultations with the Chairman of the Board of Trustees of Alcoholics Anonymous, International and the continued development of the Alcoholics Anonymous Movement.
9. Consultations and conferences concerning developing and establishing one or more additional Mental Health Centers in Delaware (all members consulted).
10. Informal consultations concerning New Bolton Center (University of Pennsylvania School of Veterinary Medicine) regarding the possible development of an educational program in the humanities (with emphasis on mental health) for the staff-in-training.

Thomas H. Hogshead, M.D., *Chairman*

T. M. Alatur, M.D.
F. W. Baker, Jr., M.D.
L. Bales, M.D.
R. H. Beckert, M.D.
R. J. Bishoff, M.D.
E. N. Cuba, M.D.
L. O. deBernard, M.D.
K. Gurdikian, M.D.
R. J. Kester, M.D.
H. A. Lovett, Jr., M.D.
D. W. MacKelean, M.D.
J. Pearson, M.D.
H. L. Reed, M. D.
M. E. Traynor, M.D.
W. J. Vandervort, M.D.

PUBLIC RELATIONS COMMITTEE

The Public Relations Committee, in joint action with the Venereal Disease Committee, sponsored a program on WDEL consisting of a panel discussion and question and answer period on venereal disease. This occurred on September 8th, 1972, from 6:30 p.m. to 11 p.m. The following physicians participated in the panel: Richard Forlano, M.D., John Gehret, M.D., and Winder Porter, M.D. Additional physicians participating on the question and answer period were Stephen Bartoshesky, M.D., Jason Campbell, M.D., William Holloway, M.D., and Janet Kramer, M.D. In addition Mr. Trippe Callahan, and Mr. Jack Conrad, members of the State Services Center and Public Health Personnel, assisted in the presentation.

The two on-going programs which function under the aegis of the Society continue to be active. *Ask the Doctor* on WDEL continues to be a weekly presentation and is supported by the numerous physicians who have agreed to appear on the program and are assisted by Mr. Richard Aydelotte in this radio presentation.

The Explorer Scout Post #530 continues meeting with the help of David Levitsky, M.D., Patrick Ashley, M.D., J. Furlong, Jr., M.D., Edwin Katzman, M.D., Jane Straughn, M.D., and Mr. Michael

Turner in presenting subjects of interest to these young people.

The AMA has recently distributed material concerning Action 72, which is being considered by the Committee for possible implementation in Delaware. Action 72 is a collection of present information concerning the various forms of national health proposals which have been presented in the past two years. The best means to disseminate this information to our members, and possibly to the community in general, is still a matter of discussion in the Committee.

The Chairman of the New Castle County Public relations Committee, David Saunders, M.D., and the Chairman of the Medical Society of Delaware Public Relations Committee, have worked closely and consulted frequently with each other during the year. It is our joint suggestion that consideration be given to so selecting members of the State Committee that they include those of the County Committees in order to allow for better utilization of members' time.

Thomas S. Vates, Jr., M.D., *Chairman*
N. L. Cannon, M.D. **J. M. Levinson, M.D.**
W. H. Comer, M.D. **R. H. Morgan, M.D.**
L. M. Garcia, M.D. **B. Z. Paulshock, M.D.**
W. Kraut, M.D. **W. F. Renzulli, M.D.**
M. A. Woolley, M.D.

COMMITTEE ON REHABILITATION

In June, 1971, the State General Assembly extended the eligibility for vocational rehabilitation services in Delaware to those persons who have a substantial handicap to employment because of economic and social factors in addition to the physically, mentally, and behaviorally disabled. Plans were rapidly implemented to reorganize the Vocational Rehabilitation Service in order to:

1. Continue traditional services to the physically, mentally, and behaviorally disabled and to provide this group with improved social and employment services as well.
2. Provide integrated Vocational Rehabilitation, Employment and Social Services to the socially and economically disabled.

A total of 7,732 persons were served during the year, approximately one-half of whom were public assistance recipients. A large percent of all public assistance clients received physical restoration services. The most common are dental (fillings, plates, dentures) and optical (glasses). Other restoration services for any client who needs them are: surgery and hospitalization, psychotherapy, physical/occupational/speech and other therapies, weight control, and medications. Some received prosthetic devices. Because public assistance and other people with limited funds do not receive comprehensive medical care under existing government programs or in public clinics and cannot privately afford medical care, they have many and varied medical needs which must be dealt with before vocational training can take place. Vocational Rehabilitation Service also has experienced an increase in the number of clients with problems of alcoholism, drug addiction, delinquency, borderline cases of mental retardation, and behavioral problems.

To adequately serve an increasing number of clients who have medical problems, Vocational Rehabilitation Service looked to the Delaware Medical Community for many goods and services during the 1971-1972 Fiscal Year. These included:

Number of Clients	Service	$ Cost
1926	Diagnostic and evaluation	$ 84,653.00
189	Surgery and treatment	$ 57,105.00
82	Prosthetic and orthotic appliances	$ 21,022.00
127	Hospital and convalescent care	$ 62,290.00
65	Other restoration	$ 31,389.00
2389		$256,459.00

Close cooperation was maintained between the Rehabilitation Committee and Vocational Rehabilitation during the year. Of special note was the role of the Committee in planning and recommending the establishment of a rehabilitation center at Emily Bissell Hospital. This center will provide for the physical and vocational rehabilitation of persons handicapped by a variety of disabilities, including: spinal cord damage, amputee, bone/muscle/joint disability-injury, arthritis, speech and hearing defects, chronic physical disability, and cerebral vascular accident.

Disability Of Those Rehabilitated
1971-1972 Fiscal Year

Disability	No. of Rehabilitations	% of Total
Visual	43	6.0
Hearing	36	5.0
Orthopedic	133	18.8
Amputations	30	4.2
Mental	168	23.7
Retardation	42	5.9
Neoplasms	10	1.4
Allergies	41	5.8
Blood Disease	4	0.6
Epilepsy	25	3.5
Heart	43	6.0
Respiratory	23	3.2
Digestive	50	7.0
Speech	8	1.1
Miscllaneous	53	7.5
	709	99.7

Physicians and hospitals accounted for 22.7 per cent of the referrals of those who were rehabilitated.

D. L. Shafer, M.D., *Chairman*
G. J. Boines, M.D. **J. J. Gallagher, M.D.**
A. A. Boytar, M.D. **K. Gurdikian, M.D.**
H. B. Cates, M.D. **J. S. McDaniel, M.D.**
H. G. DeCherney, M.D. **R. S. Parvis, M.D.**

SCHOOL HEALTH COMMITTEE

The School Health Committee has held two meetcent of the refarrals of those who were rehabilitated.

The Board of Trustees approved a recommendation submitted by our Committee that sickle cell trait and sickle cell anemia screening programs be included in school physical examinations.

The Committee reiterated its desire to see the following resolutions, which were adopted by the 1968 House of Delegates, implemented.

A

Whereas, it is becoming increasingly apparent that health and family life education needs to be included in our public school system, and

Whereas, knowledge of the human body and its behavior in health and disease is an important part of preparation for living in our society, and

Whereas, it is desirable that instruction in this area be offered to every student from kindergarten through high school, and

Whereas, preparation for such teaching has not been required on a general basis; therefore be it

RESOLVED, that this society urge the State Board of Education to require a course in health education as a prerequisite for teacher certification.

B

Whereas, is it desirable that health and family life education be included in the curriculum of all schools, and

Whereas, it is essential that teachers be equipped educationally to adequately provide this type of instruction, and

Whereas, preparation for such teaching is not now included or required in the curricula of our state institutions of higher learning; therefore be it

RESOLVED, that this society urge that a course in health education of adequate substance be required of those students who are preparing for the teaching professions, and be it further

RESOLVED, that these same institutions be urged to institute graduate and extension courses so that those already graduated may obtain adequate preparation to prepare them in the area of health instruction.

Doctor Baganz with Board of Trustees backing forwarded a copy of Resolution A to Mr. Robert McBride, President of the State Board of Education and Dr. Kenneth Madden, State Superintendent of Public Instruction, and a copy of Resolution B to Dr. Luna Mishce, President, Delaware State College and Dr. Arthur Trabant, President, University of Delaware. All responded.

The Chairman has been exploring with Mrs. Edith Vincent, the Supervisor of Public Education for the State Department of Public Instruction, any problems in school nurses' testing for pregnancy as far as physician involvement is concerned.

The Committee is considering a proposal submitted by Edward F. Gliwa, M.D. whereby health services in schools would be removed from the Board of Education and put under the Division of Public Health. No recommendation has as yet been reached however.

The Committee is exploring recommendations for upgrading school nurse qualifications and recommendations for training health teachers.

The Committee is fortunate to have added a school nurse and a school administrator this year to offer input from their points of view. Paul Ramsey, M.D. was also asked to join the Committee to represent school sports medicine.

John A. J. Forest, Jr., M.D., ***Chairman***

A. A. Boytar, M.D.
J. L. Campbell, M.D.
R. W. Frelick, M.D.
E. F. Gliwa, M.D.
Mr. George Glynn
G. R. Hilty, M.D.
W. R .Johnson, M.D.
G. Keppel, M.D.
M. Liebesman, M.D.
L. C. Mankin, M.D.
Mrs. R. McMullen
E. G. Orton, M.D.
P. L. Ramsey, M.D.
M. E. Traynor, M.D.
D. T. Walters, M.D.

COMMITTEE ON VENEREAL DISEASE

Your Committee feels that its main function is to assist and cooperate with various state agencies, especially health and educations departments in their effort at V.D. eradication. The Venereal Disease Committee is aware of the alarming increase in V.D., especially gonorrhea, and especially in the younger age groups. With this in mind, the following objectives are being pursued and implemented:

1. Assistance in the educational program in our schools. In cooperation with the Public Relations Committee a special V.D. blitz program on WDEL was held on the evening of September 18, 1972. Two hours of prime broadcasting time were made available, and the program featured six physicians and two public health officers. Mr. Richard Aydelotte moderated the program with a format similar to the "Ask the Doctor" series. All junior and senior high schools, as well as schools of higher learning, were contacted. Letters and special posters advertising the program were sent to all schools. The program was considered quite successful, as judged by the large number of questions submitted over the air as well as private off the air consultations available throughout the program.

A Physicians' speakers bureau is now being organized to take the campaign into the schools. In this format a special film will be shown followed by a question-and-answer period.

2. Attempts are being made to reduce the reservior of asymptomatic gonorrhea in females (it is estimated that up to 40% of women infected with transmissable gonorrhea are essentially asymptomatic). The Committee is pleased to report that its previous recommendation for the routine performance of tests for the diagnosis of gonorrhea at gynecological, prenatal, and family clinics is now being carried out. Physicians in private practice are being urged to be cognizant of the varied clinical

patterns in V.D. infection and continue to make frequent use of acceptable diagnostic tests.

3. Improved reporting of new cases. Basically a successful control program is to find and treat effectively all cases in the community. Recently the Division of Public Health noted an improved reporting in cases of gonorrhea. With close follow-up of laboratory positive tests, visits to private physicians, the new gonorrhea screening program instituted by the state with increased federal funds, and the desire of the V.D. section to indentify and bring to treatment undetected gonorrhea cases, we can expect the gonorrhea case morbidity to rise continuously until the detection and reporting of these cases begins to reach the true incidence of the disease in the state. With more funds now available for contact detection it is manifestly most important that physicians report all cases.

The Committee on Veneral Disease is aware of the changing social-moral-sexual patterns contributing to the upsurge in venereal disease, and there is probably little the medical community can do to change these new behavioral patterns. Despite increasing efforts in case contact detecting, the ultimate control of gonorrhea will in all probability depend on the successful development of a suitable vaccine. Progress along this line is encouraging. Syphillis is susceptible to eradication with more vigorous application of known control and treatment programs. Your Committee urges the physicians of our Society to be constantly aware of the V.D. problem and to continue to cooperate with public health officials in their efforts.

Patrick F. Ashley, M.D., *Chairman*
P. W. Huntington, Jr., M.D **E. R. Miller, Jr., M.D.**
R. Forlano, M.D. **W. F. Renzulli, M.D.**

DELAWARE FOUNDATION FOR MEDICAL CARE

A. Organization Process:

The Board of Directors of the Delaware Foundation for Medical Care (DFMC) have completed work on the Charter and By-Laws of the Foundation. The legal incorporation process has been initiated and is expected to be completed by November 1, 1972. The Key features of the By-Laws are:

1. The Board of Directors would be appointed by the Board of Trustees of the Medical Society of Delaware. Nominations for Board appointments would be made by the Board of the Delaware State Osteopathic Medical Society (for D.O. representation) and by the membership of the enrolled consumers.
2. The Board of Directors will be composed of 17 physicians, of whom at least two will be D.O.'s and 8 consumer representatives.
3. Membership on the Board of Directors is limited to those physicians who are participating with the Foundation and consumers enrolled in Foundation programs.

Recent physician surveys indicate that 27% of the physicians in Delaware are favorably inclined to the program, and of these, 27% are from the Family Practice, International Medicine, Ob-Gyn, and Pediatric specialties. The majority of respondents were from New Castle County. Less than 10% of the responses were from Kent and Sussex Counties and of these, only 2 were favorable to the proposal.

We have drafted participating agreements for the physicians and Foundation to execute and have designed a contract to be entered into with insurance companies for the purchase of specific services.

B. Financial Arrangements:

We estimate the planning phase of the program will require approximately $88,419 for the calendar year of 1973. Of this amount $15,000 will be requested from the DHEW, approximately $67,000 from Blue Cross and Blue Shield of Delaware, Inc. and $12,400 from the Medical Society of Delaware. (The funds requested from the Medical Society of Delaware are "services in kind," not cash requests.)

Contingent upon approval by the Board of Trustees, we will be requesting a cash grant of $25,000 from Blue Cross and Blue Shield of Delaware, Inc. with a "line of credit" for an additional $25,000. In addition we estimate a requirement for $17,000 for "services in kind" from Blue Cross and Blue Shield of Delaware, Inc. These funds will be used for developing and implementing a CHAP program while the $15,000 we will request from HEW will be for further planning for the HMO.

If the CHAP program becomes operational, a fee of $2.50/member enrolled per year will cover the cost of operating the program.

C. Marketing/Enrollment Plan:

Even though the pilot project will be restricted to the two groups originally approved by the House of Delegates, we have completed a comprehensive analysis of the potential market. This was done to assess the long-term marketing potential.

Essentially the analysis was limited to identifying and sizing the groups who currently have a fairly comprehensive benefit package. The following table illustrates the number of employer groups, the number of contracts and the estimated number of people who have the comprehensive Blue Cross and Blue Shield contracts:

Location	No. of Groups	No. of Contracts	No. of People
New Castle County	284	58,389	145,778
Kent County	75	3,185	7,970
Sussex County	32	6,256	15,612
Total	391	67,830	169,360

To further refine this data, the largest groups, representing 90% of the total number of employees, were identified. Of particular significance was the fact that 86% of these employees were employed in groups located in New Castle County.

Once the larger groups were identified the probability of securing an option for dual choice was then estimated. In order to evaluate this probability several key criteria were applied:

a. Is the decision to purchase a particular health benefits program made locally?
b. Is the decision maker accessible?
c. Are there union employees present?
d. Is a dual choice option now present in the union contract?
e. Will the group accept a dual choice option?

After evaluation of these groups according to the above criteria, we isolated 13 groups as an initial market. Assuming a 5-7% penetration rate, we then estimated the first year's enrollment potential to be approximately 6,700 people.

We then examined the distribution of indigent people in the State. According to information from the Research and Statistics Division of Division of Social Services the individuals receiving grants were distributed as follows:

Wilmington	24,329
New Castle County (exclusive of Wilmington)	6,900
Kent County	6,800
Sussex County	6,400
Total	44,429

If approval is secured from the State to offer a program to the indigent, another 2,500 people conceivably could be enrolled. This would yield a total enrollment of 9,200 in the first year.

The distribution of the larger groups of employees and the indigent is significant in that the majority are located in New Castle County. This coupled with the fact that the majority of physicians indicating a favorable attitude toward the program are from New Castle County means that initial marketing should concentrate on New Castle County.

Of particular significance is the fact that both of the groups of people initially designated for the pilot project are for the most part in New Castle County and are highly rated as a potential target group.

D. Health Care Delivery System:

In order to capitalize on some of the cost control features of the proposal for a Comprehensive Medical Care Plan we will be attempting to phase the implementation of the program. Activation of a program similar to CHAP will not only generate some savings to enrolled consumers but perhaps will ease the implementation of the entire program.

E. Summary:

Our efforts to date lead us to believe that an HMO is feasible in Delaware. The next phase in developing this type of organization will be to develop the financial structure and legal arrangements for the provision of services. We expect, contingent upon approval of the Board of Trustees, to apply for Federal monies to accomplish this planning phase.

In addition, the Foundation will be working to develop and implement a program similar to the Certified Hospital Admission Program of the Medical Care Foundation of Sacramento, California. Contingent upon approval from the Board of Trustees of the Medical Society of Delaware, the program could be operational by July 1, 1973.

F. Proposal of the Delaware Foundation for Medical Care

1. The Delaware Foundation for Medical Care will develop a comprehensive peer review program (including Certified Hospital Admission Program) to include medical inpatient and outpatient and extended care services. The scope of the program will include review of the quality of care, over and under utilization, and resolution of disputes over fees and payments.
2. The insurance carrier will identify those subscriber groups who currently have "first dollar" coverage for home and office visits and will secure group approval for inclusion of some in the Foundation-sponsored program.
3. The Foundation will review and approve all contracts between the insurance carrier and the enrolled groups for those groups who are being considered for the Foundation-sponsored program, to certify proper levels of covered medical services.
4. The insurance carrier will fund the peer review program to the extent of the proportion of the insurance carrier subscribers in the Foundation-sponsored program.
5. The Foundation shall have access to the insurance carrier's statistical data relative to the program and will determine criteria for selecting claims to be reviewed.
6. The insurance carrier will provide such coverage for services rendered by qualified non-physician personnel as will be agreed upon mutually by the insurance carrier and the Foundation.
7. Subscribers enrolled in the program will have freedom of choice of any physician whether or not he is a Foundation member. Payment for covered services will be made directly to participating physicians (i.e., as to physicians participating in the insurance carrier Prevailing Fee Programs). There will be no differential in the amount of payment for services rendered by non-participating physicians.
8. The Foundation will establish a mechanism to ensure a physician will be on call during "off-duty" hours for those subscribers enrolled in the program.
9. The subscribers' insurance carrier premiums will comprise full payment for all covered services. Physicians will be reimbursed by the insurance carrier on a prevailing fee, fee-for-ser-

vice basis and will not be at financial risk.

10. The Delaware Foundation for Medical Care will be free to make similar arrangements with other insurance carriers.
11. Actions of the Delaware Foundation for Medical Care will continue to be subject to approval by the Board of Trustees of the Medical Society of Delaware through the Medical Services Insurance Committee or whatever other mechanism is in the future designated by the Medical Society of Delaware.

David Platt, M.D., ***President***

D. A. Alvarez, M.D.
M. V. Andersen, M.D.
J. L. Campbell, M.D.
T. Davis, M.D.
E. S. Dennis, M.D.
C. A. Depfer, D.O.
W. H. Duncan, M.D.
J. A. Elliott, M.D.
R. B. Flinn, M.D.
J. Gelb, M.D.
J. J. Giliberto, D.O.
N. Kuseybi, M.D.
W. Leitzinger, M.D.
A. J. Morris, M.D.
H. S. Rafal, M.D.
H. H. Stroud, M.D.

COMMITTEE TO REVISE THE MEDICAL PRACTICE ACT

The Committee has met twenty or thirty times the past two years ,and we have gotten a third draft, over the past two years, and we have gotten a third draft, one that has been in the hands of the Board of the nurses to discuss the provisions of the physician's assistant as it might be included in this Medical Practice Act. A lot of the discussions were centered around the structure and relationships of the two elements that now make up the Medical Practice Act: the Board of Medical Examiners and the Medical Council.

We finally decided that we were to have two bodies, an examining group as a special function, and an expanded Medical Council, elected by the physicians of the State, not solely by the Medical Society of Delaware, since the Medical Council would be the disciplinary body for all licensed physician practitioners in the State.

The Public Laws Committee is reviewing our third draft for the Board of Trustees.

Norman L. Cannon, M.D., ***Chairman***

Ward W. Briggs, M.D.
Andrew M. Gehret, M.D.
David Levitsky, M.D.
James B. McClements, M.D.

AMERICAN CANCER SOCIETY, DELAWARE DIVISION, INC.

On August 31, 1972 the Delaware Division of the American Cancer Society completed another year of active programming in Delaware.

Through its professional education program the Society supplies films and publications for physicians, nurses, dentists, and hospital staff. During the past year the Society sponsored a session on oral cytology for dentists, and funded two lectures for the continuing education of physicians in Sussex County and one medical education lecture for pediatricians at the Wilmington Medical Center.

A special field trip to Calvary Hospital was sponsored by the Delaware Division in April. Calvary Hospital treats only advanced cancer patients. The group of 35 nurses toured the facility and saw demonstrations of the latest specialized techniques for caring for terminal patients.

Joseph Burchenal, M.D., Vice President of Memorial Hospital for Cancer and Allied Diseases in New York, initiated the annual oncology lectures for the Sussex County Medical Society when he spoke on leukemia research at Rehoboth on May 18.

The Society supported seven undergraduate students at the University of Delaware and sponsored two student nurses from the University of Delaware to a work-study program at Memorial Hospital in New York.

The highlight of the professional education program was an all-day seminar on the "Quality of Survival of the Cancer Patient" on May 23. More than 300 people, representing ten health and allied professions, attended the conference and heard some of the nation's leading cancer experts — Guy Robbins, M.D. and Melvin Krant, M.D. as well as Delaware specialists.

Through its public education and information programs the Society continued its efforts to alert the public on cancer problems. More than 41,000 people were reached with film showings. All media continued to publicize the American Cancer Society's activities. Henry Davidson of the News Journal Company and Dorothy Caralivanos of the Weekly Post attended the Science Writers Seminar in Clearwater Beach, Florida.

There was a 36% increase in the number of cancer patients receiving help from the Society. These services include drugs, dressings, prostheses, blood counts, hospital equipment, transportation, Visiting Nurses Association, and rehabilitation.

The Delaware Division of the A.C.S. has continued its active support of community service projects. Through special grants the Society has contributed funds for the following projects:

1. Integration of all private hospitals into the automated tumor registry
2. A multiphasic screening center at Peoples' Settlement
3. A community health worker for S.M.A.C.
4. Clinical Oncology Group studies at the Wilmington Medical Center.

The American Cancer Society appreciates the excellent support and interest of the members of the Medical Society.

As Delaware's Professional Delegate to the National organization of the American Cancer Society, I attend National Board and Committee meetings and National Cancer Conferences. As your liaison, I will keep the Medical Society informed of new and exciting programs and advances in research and I will carry your ideas and directives to the National meetings.

Oscar M. Stern, M.D., ***Liaison***

CHILD DIAGNOSTIC AND DEVELOPMENT CLINIC OF THE ALFRED I. duPONT INSTITUTE

On June 30, 1972, the Child Diagnostic and Development Clinic of the Alfred I. duPont Institute completed seven and a half years as an evaluation clinic for children with handicaps involving the neuromuscular system, but the first year as a service of the Alfred I. duPont Institute. The method of operation and the staff are about the same, but a speech therapist on a part-time basis was added during 1972.

During 1972, 200 new patients were seen for complete evaluation involving 685 patient and family visits. In addition, 225 other children were seen for follow-up examinations involving 388 visits. Total visits with evaluation team members amounted to 1,073 contacts. The Nurse Coordinator made 85 visits to 75 new patients in the home. The Family Counselors were involved with 62 families in a total of 219 counseling interviews.

Of the new patients seen 108, or 54%, showed some form of retarded development. Ninety-seven patients had disturbed cerebral functioning manifested by behavior disorders, learning problems, or seizures. About 50% of patients seen were five years of age or younger. Males continued to outnumber females by two to one. Private physicians, chiefly pediatricians, referred over 50% of the patients, but this year the other services of the Alfred I. duPont Institute referred 40 patients. Most of the children continue to come from Wilmington and New Castle County with 12% from Sussex and Kent Counties and 13% from out of state.

During the year the Director of the Child Diagnostic and Development Clinic continued as Co-administrator with the Director of the Delaware Curative Workshop, in the operation of the Developmental Center, which endeavors to improve development of children between two and five years of age who are delayed in one or more areas including motor, language, adaptive, and personal-social behavior. About 15 children attend the morning program regularly, and at least an equal number are seen in the afternoon pediatric program for younger children who are not yet ready for group activities. otWamgvCfvt1cFaMfvwsrof

Although having been in operation for less than two years, it is definitely being demonstrated that through early involvement in a therapeutic program children with developmental delays are progressing at a faster pace than would have been anticipated. The staff and administration of the Developmental Center would welcome visitors from the Medical Society of Delaware to visit the program in the children's building of the Delaware Curative Workshop at 226 West 17th Street.

We feel the Child Diagnostic and Development Clinic continues to provide a service that is needed as referrals continue to increase, and the waiting list at the end of the year is as long as in the previous year, in spite of having served 23% more new patients during the year. It is hoped the services of the Child Diagnostic and Development Clinic will continue to expand, and active efforts are being made to establish a satellite clinic in Sussex County during the coming year.

Henry H. Stroud, M.D., ***Liaison***

DELAWARE ASSOCIATION OF MEDICAL ASSISTANTS

As state advisor, I attended the annual Bosses' Nite, which was held in December, 1971, at the University and Whist Club. Bosses' Nite is sponsored by the members of the New Castle County Chapter as a means of paying tribute to their employers by treating them to cocktails and dinner.

I also attended the Installation Banquet of the New Castle County Chapter, which was held at the duPont Company Club in May, 1972, at which time I acted as installing officer of the incoming officers for 1972-73.

In January, 1972, notification was received from the component chapter in Kent County that they had decided to dissolve the chapter because of a decline in membership and difficulty in generating interest in the medical assistants, in that area, to join the association.

An invitation was sent to the remaining membership of Kent County, as well as any other interested non-member medical assistants, to affiliate with the New Castle County Chapter as members-at-large in order that they could retain all the privileges of the association; however, to date, there has been no response to this.

During the past year, the New Castle Chapter has been actively working on a program to prepare their members for the American Association of Medical Assistants Certification Examination by presenting programs at their monthly meetings, which are centered around the study outline that has been prepared to familiarize the members with the scope of the examination.

Upon successful completion of the examination, the medical assistant receives a certificate and is classified as a Certified Medical Assistant (C.M.A.).

The Annual State Meeting of the Association will be held on Saturday, October 7, 1972, at which time, as part of the program, the Mini-Test will be given to any member who wishes to take it. Although it is not mandatory in this state that a medical assistant be certified, I strongly urge my colleagues, whose employees are members of this association, to encourage them to take the test. To those of you whose employees are not members of the Medical Assistants Association, I ask that you seriously consider the advantages of having them affiliate and taking an active part in the educational program, which will be continued throughout the coming year.

The Mini-Test is a simulated test which has been designed to orient the medical assistant to the certification examination and to answer some of the questions about the actual examination.

In addition to the personal achievement and satisfaction for the medical assistant, herself, one advantage to be gained by having her participate will be her improved knowledge, which, in turn, will reflect in a higher quality of job performance.

Peter J. Olivere, M.D., ***Liaison***

DELAWARE DIABETES ASSOCIATION

The main thrust of the Delaware Diabetes Association has been in two areas: education and diabetes detection.

The Association sponsored a bazaar at Concord Mall, Wilmington, during which home-made diabetic baked goods were sold and literature about diabetes was distributed. In the autumn Holbrooke Seltzer, M.D. spoke to the general membership, and at the spring luncheon Leon Smelo, M.D. was the featured speaker.

Diabetes detection is a continuing process. We received results of random blood sugars from people who have gone to designated laboratories. Both the patient and the patient's physician are then informed of the results of the test.

The national convention at Washington, D. C. marked the fiftieth anniversary of the discovery of insulin by honoring Lady Banting and Charles Best, M.D.

The American Diabetes Association and we as an affiliate are entering a new phase of development which we hope will add new impetus to research efforts and treatment goals.

R. Walter Powell, M.D., ***Liaison***

DELAWARE HEART ASSOCIATION

Under the Presidency of Mark G. Cohen, M.D., the Delaware Heart Association has continued to provide many community service programs for the citizens of Delaware. Funding of the Strep-Detection Program has been maintained, and physician use of this service has grown to over 40,000 throat cultures per year. 16.1% of these were positive. The Heart Association has also continued support of five rheumatic heart clinics, the special pediatric clinic, the phonocardioscan program, homemaker's rehabilitation, and information and referral service.

Dwight E. Harken, M.D. was the speaker at the David Fleet DuPont Memorial Lecture, which was held in May in cooperation with the New Castle County Medical Society. A successful nurses' teaching day was also held in May of this year in Dover. Training courses in cardiopulmonary resuscitation have continued through the state on a quarterly basis.

In line with a planned emphasis on public education, nearly 100,000 wallet cards listing the "Early Warning Signs of Heart Attack" have been distributed through cooperation of banks, libraries and business concerns.

Peoples' settlement was provided a $1,000 Grant to help establish a clinic for that area of the city.

Additional support has been given to local and national research projects.

Please accept the appreciation of the Delaware Heart Association for your support and interest in the Heart Association and its activities.

Richard Lennihan, Jr., M.D., ***Liaison***

DELAWARE INSTITUTE OF MEDICAL EDUCATION AND RESEARCH

The Delaware Institute of Medical Education and Research (DIMER) was established by an act of the Delaware General Assembly in 1969 as a nonprofit foundation.

The immediate prime objective of DIMER is to help train more family physicians for the State of Delaware. Soon after its inception, working agreements between the cooperating partners of the Wilmington Medical Center, the University of Delaware, and Jefferson Medical College were developed.

In September, 1970, sixteen Delawareans started training at the pre-clinical level at Jefferson Medical College.

In September, 1971, twenty Delawareans chosen from 49 applicants started the program.

In September, 1972, the third group of twenty Delawareans was chosen from 86 applicants, for a total of 56 Delawareans in the program.

Recently, Dr. William Kellow, Dean of Jefferson Medical College, stressed the following observations on developing the relationship of Jefferson with the cooperating partners to:

1. Stimulate general interest in medical education.
2. Develop a growing opportunity for residents of Delaware to get into medical school.
3. Encourage the graduates of the DIMER program to return to practice in the State of Delaware.

The role of the Wilmington Medical Center is to prepare and develop the necessary teaching facilities and clinical faculty to receive the first group of third-year medical students this fall. This is being done under the responsibility of Mr. James Harding, President of the Center.

The University of Delaware is concomitantly developing the facility and faculty for a six year B.S.-M.D. degree program under William Whitehorn, M.D., Assistant to the President of the University.

A continuing medical education program was started on September 3, 1970, through May of 1971, and carried 43 scheduled lectures and conferences at the following hospitals: Beebe, Kent General, Milford Memorial, Nanticoke Memorial, Riverside, and St. Francis. The program has been repeated annually since then. It is hoped that the participating physicians have enjoyed and benefited from this phase of the DIMER effort. Suggestions are welcomed by the DIMER Board.

Under the chairmanship of Mr. Lee Reese, Jr., the nine-membered Board of Trustees of DIMER is composed as follows:

J. Bruce Bredin, Wilmington
Senator Frank R. Grier, Milford
Charles J. Harrington, Wilmington
G. Barrett Heckler, M.D., Wilmington
Albert Holmes, Dover
Pierre L. LeRoy, M.D., Wilmington
Charles Lee Reese, Jr., M.D., Wilmington
Judith Tobin, M.D., Seaford
George M. Worrilow, Newark

Chairman Reese and his Board have strived to organize and develop a new concept in medical education for the State of Delaware. The Board has been very economically minded in setting its annual budget request to the Legislature. The DIMER Board acknowledges the fine cooperation received from the 1972 General Assembly of the State of Delaware in meeting these long-range commitments.

Governor Russell Peterson and Dr. Herbert Baganz, Secretary of Health & Social Services, have emphasized the great need to blend private, institutional and government resources.

The DIMER trustees and the Medical Society of Delaware are striving towards this end.

It should be noted that DIMER can receive tax-deductible gifts and bequests. Please consult your attorney.

Pierre L. LeRoy, M.D., ***Liaison***

DELAWARE INTERAGENCY COUNCIL ON SMOKING AND HEALTH

The Delaware Interagency Council on Smoking and Health continued its active educational role during the past year. Monthly planning sessions were held, and the following is a list of the main programs held during the year:

1. The Council participated in the observance of National Education Week on Smoking and Health held in January 1972 and obtained a proclamation of the week in Delaware by Governor Peterson. The Council provided a grant totalling $825 to twenty-three school districts throughout the state for curriculum materials for the fifth and sixth grades for health education as related to smoking. Guidelines with suggested activities for the observance of the week for principals, health teachers, and school nurses were prepared and distributed, and students were assisted in the preparation of radio spot announcements distributed to all radio stations statewide.
2. The Council sponsored a student press tour to the Wilmington Medical Center for fourteen students from seven area high schools in April. The purpose of this tour was to inform students, student editors, and students interested in health careers about the cause, detection, and treatment of smoking-related diseases. The tour visited seven Medical Center facilities, including Pathological Laboratories, the Pulmonary Function Department, Cardiac Catheterization Unit, Tumor Service and Registry, and Radiation Therapy Department. The students were encouraged to write articles and editorials for the school papers after the tour and to develop lesson units on smoking and health for use in elementary school classrooms.
3. The Council participated in two Delaware State Education Association meetings with an exhibit: one for school nurses and the other for the Delaware Association for Health, Physical Education, and Recreation.
4. The Council assisted in the preparation of an article directed to physicians concerning smoking, which appeared in a recent issue of the *Delaware Medical Journal.*
5. The Council prepared and submitted a proposal to the Delaware Regional Medical Program requesting funds to establish the position of a full-time coordinator for smoking and health education statewide.
6. The Council continued to provide to all schools smoking and health resources, including medical speakers, films, literature, posters, displays, etc. to be utilized in the classroom and for assembly programs.
7. The Council participated in numerous in-service meetings for teachers as part of the state requirement for teacher training in the area of alcohol, drugs, and tobacco.

Patrick F. Ashley, M.D., ***Liaison***

DELAWARE NURSES' ASSOCIATION

During this year there has been a closer personal liaison between the Medical Society of Delaware and the Delaware Nurses' Association in cross attendance at meetings.

The Delaware Nurses' Association, the Medical Society of Delaware, and the Delaware Association of Nursing Homes have attempted to act as catalysts to bring about a better understanding and more complete medical Service among the three groups in order to better serve the geriatric patient throughout the State.

The development of the orange page as an occasional part of the Society's Newsletter is an attempt to bring about a better understanding and to foster communication between the two groups.

The House recommended that the representation of the nurses include representatives from the Delaware League for Nursing and the Delaware Board of Nursing, as well as from the Delaware Nurses' Association.

William H. Duncan, M.D., ***Liaison***

DELAWARE SOCIETY FOR CRIPPLED CHILDREN AND ADULTS

I have discussed with Mr. Miller, the Executive Director of the Delaware Society for Crippled Children and Adults, methods in which the Society may be of assistance to his group. Mr. Miller stated that he needed assistance in getting physicians' advice and counseling in the downstate areas, especially in lower Kent and Sussex Counties. He also would appreciate any suggestions the Medical Society may have to improve the use of his rehabilitation facilities and satellite areas in lower Delaware served by his therapists.

A. J. Heather, M.D., ***Liaison***

DELAWARE TUBERCULOSIS AND HEALTH SOCIETY

The Delaware Tuberculosis and Health Society has been active in medical affairs within the last year. They have made a grant to Dr. Nurtan A. Esmen at the University of Delaware, supporting his professorship in Environmental Engineering in the amount of $20,000 per year for four years. He is now receiving his third year of this grant.

Contributions have been made towards furthering the work of our paramedical helpers, specifically the inhalation therapists, with contributions to Mr. Anthony Bunussi, who directs our program and administers our scholarships at the Delaware Technical and Community College.

Grants have been made to the Division of Public Health of the State Department of Health and Social Services, supporting the diagnostic x-ray work being done in the community health centers being set up by the State.

We continue to be active in the Interagency Council On Smoking and Health and also support the Delaware Citizens for Clean Air.

James M. Hofford, M.D., ***Liaison***

MEDICAL ADVISORY COMMITTEE, DIVISION OF SOCIAL SERVICES, STATE OF DELAWARE

The Medical Advisory Committee to the Division of Social Services is composed of representatives from medicine, optometry, Blue Cross and Blue Shield of Delaware, Inc., dentistry, education, consumers, and others who offer advice and expertise on health programs for Title XIX.

The first order of business was recognition of the late Doctor Walter A. Dew's contribution to the Medical Advisory Committee as a representative member from the Family Service Council.

Doctor William O. LaMotte's resignation was accepted with the recommendation that the Medical Society return a replacement to the Advisory Committee as early as possible.

During the December 15, 1971 meeting some members of the Advisory Committee suggested mailing samples of the waiver and agreement forms to all the physicians of Delaware for each doctor's individual consideration before finalizing these forms. This idea, to our later disgust, was rejected because of inconvenience and cost. The disgust was evidenced, when a hot and heavy tirade was unnecessarily unleashed on the medical repersentatives of the Advisory Committee, with the statement that your representatives were not representing your interests. You be the judge after you have read this excerpt from the December 15, 1971 minutes of the Advisory Committee: "Dr. Bishoff recommended that a sample waiver form be sent to each vendor along with the agreement . . . "

The June 21, 1972 meeting recognized the addition of William Renzulli, M.D., in his absence as the new addition from the Medical Society of Delaware, and H. Martin Moss, O.D., a new addition from the Delaware Optometric Association, was accepted.

At the September 20, 1972 meeting it was announced that the Delaware Home and Hospital for the Aged and Chronically Ill will be expanded to approximately 500 cases.

Dr. H. M. Moss presented the following proposal for the inclusion of Optometric Services under Title XIX:

1. Services be provided in the private sector as well as clinics since it would be impossible to serve the large numbers in the available facilities with limited staff.
2. Those over twenty-one who are eligible under Title XIX be included.
3. Services to include complete eye examination; glaucoma study for those over 40; prescription and dispensing services; contact lenses (only if indicated because of the eye condition); vision training in special cases; replacement of damaged lenses and frames.
4. Cost of frames limited to six dollars for plastic frames and ten dollars for wire frames.
5. Children to be examined annually; adult examination every two years, except in special cases.

It was agreed a need for optometric care exists, particularly for those in the over twenty-one category since the zero to six year age group is being screened, and the six to twenty-one group is to be started July 1, 1973 on a similar screening program. The service is now being given to AFDC and foster children. It was, after much discussion, decided to form a sub-committee to study the cost, techniques, methods, and administration of examinations of this venture. It was suggested that Doctor LaMotte be asked to chair such a committee and report its pro and con findings to the Advisory committee.

It was revealed that 510 physicians have signed the participation agreement, and three have definitely refused to participate.

The logic of these physicians representing the entire Medical Society in all its disciplines on the Medical Advisory Board escapes me; therefore, I recommend that a recommendation be made to the Medical Advisory Committee of the Division of Social Services that a committee be formed, not to exceed seven but to have at least four members as our adjunct to the Medical Advisory Board. Further, it should be understood that no member has a lifetime job on this committee; by setting a definite sequence of rotation and limits in time of service on this committee, this can be accomplished.

I have discussed this with Mr. Roke Lieberman and with Dr. Cutt of H.E.W.'s Region III inspection team. Both men have aided me in this suggestion of more members on a limited tenure in a rotation of service.

Rhoslyn J. Bishoff, M.D., ***Representative***

MENTAL HEALTH ASSOCIATION OF DELAWARE

As liaison between the Mental Health Association and our Society, I had the opportunity to attend the Board of Directors meeting at Buena Vista on June 13, 1972. I am planning to meet with the Mental Health Association Board when it tours the Delaware State Hospital on October 4, 1972.

The Mental Health Association did not have a luncheon meeting in the Gold Ballroom this past May but instead had its annual meeting during a week night. I wasn't able to attend and as yet do not know how this was accepted by the membership.

Richard J. Kester, M.D., ***Liaison***

SPINA BIFIDA ASSOCIATION OF DELAWARE

The Spina Bifida Association of Delaware was established as a birth defects project of Aid for International Medicine in May, 1971, with Pierre L. LeRoy, M.D., acting as founder and advisor of the group. The proposed objectives of the group include the following:

1. *Educational:* To inform and advise the parents and families of children having the definable central nervous defect of spina bifida by group-sponsored participation.
2. *Research:* To gather evaluation on the growth and development of "Spina Bifida Association" children for qualified medical and educational agencies.
3. *Human Genetics and Eugenics:* To develop short- and long-term range lifetime data from meaningful study and analysis by qualified consultants.
4. *Advisory:* To advise government in proposing, planning, and reviewing effective legislative programs that are concerned with birth defects.
5. *Human Relations:* To try to establish better communications between doctors, patients, and parents.
6. *Social:* To establish any form of social and recreational activities for the handicapped within the financial resources of the group.
7. *Coordinate:* To communicate with similar organizations at local, state, national, and international levels and cooperate with them in any way possible.

During the past year, the Spina Bifida Association of Delaware has held monthly meetings, which have been attended by parents and other interested members of the group. These meetings have included presentations by William Ferris, M.D., Pierre LeRoy, M.D., Henry Cowell, M.D., and Mrs. Faye Senningen, M.A. (psychologist). Lay speakers also have presented topics at these meetings. A quarterly newsletter has been established, which includes helpful hints to parents from other parents of children with spina bifida. The Association has also produced an explanatory pamphlet about spina bifida which is available from the Association for distribution to the lay public. Since the Association feels that early contact with the group is valuable to parents, the Association would be happy to contact the parents of children born with spina bifida at as early an age as possible. Physicians may contact the group through Mr. William Horleman, Chairman, P. O. Box 266, New Castle, Delaware, 19720.

Henry R. Cowell, M.D., ***Liaison***

NOMINATING COMMITTEE

A meeting of the Nominating Committee was held at the Delaware Academy of Medicine on September 1, 1972, to consider positions to be filled for the year October 1972 through October 1973.

The following nominations were made:

Vice President — Henri F. Wendel, M.D.
Secretary — Joseph W. Abbiss, M.D.
Treasurer — Conley L. Edwards, M.D.
Representative to the Delaware Academy of Medicine — Norman L. Cannon, M.D.

For Standing Committees:

Budget Committee:

Alfred E. Bacon, Jr., M.D.
John A. J. Forest, Jr., M.D.
C. E. Graybeal, M.D.
Lawrence Katzenstein, M.D.
R. Walter Powell, M.D.
Thomas S. Vates, Jr., M.D.

Publications Committee:

Robert B. Flinn, M.D.
Bernadine Z. Paulshock, M.D.
William J. Holloway, M.D.
Kazuo K. Kimura, M.D.

Public Laws Committee:

Allston J. Morris, M.D.
John W. Alden, Jr., M.D.
Joseph E. Belgrade, M.D.
Rhoslyn J. Bishoff, M.D.
Norman L. Cannon, M.D.
Ronald C. Corbalis, M.D.
Edward S. Dennis, M.D.
Leslie M. Dobson, M.D.
Christopher R. Donoho, M.D.
Edward F. Gliwa, M.D.
Ali Z. Hameli, M.D.
Richard Hayden, M.D.
Calvin B. Hearne, M.D.

Kazuo K. Kimura, M.D.
Vincent Lobo, D.O.
Peter J. Mette, M.D.
Marjorie J. McKusick, M.D.
Gerald J. Savage, M.D.
Program Committee:
Charles Allen, M.D.
Robert B. Flinn, M.D.
Bernadine Z. Paulshock, M.D.
W. Philip Portz, M.D.
David N. Sills, Jr., M.D.
Board of Medical Examiners:
David A. Levitsky, M.D.
Judith G. Tobin, M.D.
Ward W. Briggs, M.D.
Ilona T. Szucs, M.D.
Leonard P. Lang, M.D.
Charles Strahan, M.D.
Philip L. Rothbart, M.D.
Thomas E. Dyer, M.D.
Arthur Zimmerman, M.D.
Albert Gelb, M.D.

The Committee recommended that the Chairman of the New Castle County Medical Society Legislation Committee be regularly invited to the Public Laws Committee meetings of the State Society.

Joseph A. Elliott, M.D., *Chairman*
R. J. Bishoff, M.D. **P. J. Reinhardt, III, M.D.**
L. P. Lang, M.D. **P. L. Rothbart, M.D.**

As a memorial to the members of the Society who were lost through death during the past year, the assembly arose for a moment of silence as the names were read:

José Argain, M.D.
C. Anthony D'Alonzo, M.D.
E. Willis Hainlen, M.D.
Thomas V. Hynes, M.D.
William Marshall, M.D.
C. Greylock Noble, M.D.
W. Morris Pierson, M.D.

Resolutions considered at the House of Delegates Meeting will be published in the January 1973 issue of the Delaware Medical Journal.

The complete report of the Proceedings of the House of Delegates is on file in the Medical Society office and is available to members for reference.

* * *

COUSIN EUPHEMIA KNOWS BEST

Or, Physician, Heal Somebody Else

Some people don't want to be doctors because they think doctors have to work too hard to make a living,
And get called away from their bed at night and from their dinner on Christmas and Thanksgiving.
These considerations do not influence me a particle;
I do not want to be a doctor simply because somewhere in the family of every patient is a female who has read an article.
You remove a youngster's tonsils and the result is a triumph of medical and surgical science,
He stops coughing and sniffling and gains eleven pounds and gets elected captain of the Junior Giants,
But his great-aunt spreads the word that you are a quack,
Because she read an article in the paper last Sunday where some Rumanian savant stated that tonsillectomy is a thing of the past and the Balkan hospitals are bulging with people standing in line to have their tonsils put back.
You suggest calamine lotion for the baby's prickly heat,
And you are at once relegated to the back seat,
Because its grandmother's cousin has seen an article in the "Household Hints" department of *Winning Parcheesi* that says the only remedy for prickly heat is homogenized streptomycin,
And somebody's sister-in-law has seen an article where the pathologist of *Better Houses and Trailers* says calamine lotion is out, a conscientious medicine man wouldn't apply calamine lotion to an itching bison.
I once read an unwritten article by a doctor saying there is only one cure for a female relative who has read an article:
A hatpin in the left ventricle of the hearticle.

Ogden Nash, 1902-1971

President's Page

NOW IT'S THE LAW

The physicians of Delaware, as well as many other physicians, seem somewhat complacent about the provisions of HR 1, provisions which will alter the practice of medicine. Some doctors seem to feel the Professional Standards Review Organization (PSRO) is an option they may elect to follow, and if they don't elect to participate, the PSRO will go away. The PSRO *is* now law. All medical services paid partially or wholly under provisions of the Social Security Act will be judged as to their quality and appropriateness by PSROs.

To qualify as a PSRO, an organization must be a non-profit professional association with a voluntary membership—i.e., open to all MDs and DOs without restriction—representing a "substantial portion" of the licensed, practicing MDs or DOs in a designated area. HEW has until January 1, 1974 — twelve months from now — to designate geographical operating areas for PSROs. The actual selection of each area's PSRO will then take place "at the earliest practicable date after designation" of the operating area. If more than 10% of the practitioners in the area challenge the would-be PSRO's ability to represent them, the local medical community would then be polled and a majority vote would decide the issue.

PSRO's will scrutinize the medical necessity, professional quality, and choice of type of health care facility for provision of services under Medicare and Medicaid. A PSRO will be allowed start-up time to perform its various functions, assuming increasing responsibilities as its capabilities increase. PSROs will utilize the services and accept the findings of existing review committees in hospitals or other organizations as long as they can satisfactorily demonstrate effective quality and utilization controls. If the performance of such committees is unacceptable, the PSRO will assume the responsibility for the review of medical services rendered in the hospital or other facility. No physician would be given the responsibility for reviewing services provided by him or services in a facility in which he or a member of his family had any financial interest.

Regional norms of treatment, diagnosis, care, and utilization developed through the National Professional Standards Review Council will be used by each PSRO. Where services are judged unnecessary or improper, the PSRO will notify the fiscal agent or intermediary and no reimbursement will be made. In the case of repeated improprieties or where medical care is consistently and demonstrably poor, the HEW Secretary may prevent a provider from being reimbursed under any federal health program, either temporarily or permanently, or he may levy a fine upon the provider.

As president of the Medical Society of Delaware I have requested both the Delaware Foundation for Medical Care and the Peer Review and Professional Evaluation Committee to consider the implications of and make recommendations on the PSRO concept for Delaware physicians. While these groups are studying and considering their positions, I hope that all members will give the PSRO concept their individual attention and will forward their comments to me at the Society office.

Continued on page 372

Editorials

SOCIALIZED MEDICINE? HOW DOES IT TASTE?

The pattern of modern medicine already tends toward socialism. Physicians are no longer at the top of medicine's hierarchy. Instead, the practice of medicine is often dictated by non-medical personnel assisted by a highly efficient computer. Every patient, according to their dictates, must be treated equally to every other patient with the same disease entity. No allowances are made for individual responses or complications. Woe be unto the physician whose patient requires anything over and above the "average." A slated maximum number of days is allotted for recovery from each illness, and the physician is the one who must answer to the authorities if his patient is not discharged according to the timetable. The human touch is a thing of the past.

In addition, as inevitably is the case with all government agencies, there is an unending amount of red tape and paper work which requires extra clerical employees and extra physician hours to process. Finally, if the physicians, hospitals, and other providers of medical care can get through the complicated process of Medicare with its allowable charges, deductibles, and percentages, payments (often only a part of the provider's regular fee) are received. In other words, the government not only issues time limits, but also sets fees. Almost as an afterthought come the many hours spent trying to explain the Medicare benefits to the patients, who are happily oblivious to all that has gone before.

In summary, after time spent trying to comply with rules and regulations, timetables, paper work, and fees, the time left to devote to providing good medical care is severely limited. The physician is already tired and discouraged. Furthermore, the physician must spend his time with the patient under the watchful auspices of the government. There are committees to monitor and review the work of other committees, who, in turn, monitor and review the work of the physician. It is, at best, difficult to work under the aura of suspicion and distrust that is bred by such supervision. Of course, there are probably a few dishonest people in the medical profession as in any walk of life, but why is it necessary for every physician to be subjected to such constant supervision? The physician begins to lose self-confidence, and in the end it is the quality of medicine that suffers.

I do not wish to give the impression that government should isolate itself from the social problems of the country. On the contrary, we all hope to reach 65 and know that at no time will we be denied good medical care because we are second-class citizens, who do not have the means to pay for the services we need. However, there are already so many inadequacies in the Medicare and Medicaid systems that we can certainly not hope that extensions of these systems will be a solution to the problem. For instance, where are the nursing and convalescent homes that our geriatric patients need so desperately? Even if we can find a place for our patients, there may be no provisions for payment for the care they receive. How many times do we find patients with medical assistance blatantly abusing their privileges? On the opposite side there are those truly in need of aid with legitimate medical bills who cannot receive a penny from the state because of some petty legality.

The administrative costs of such programs as Medicare with all its bureaucratic red tape must be of geometric proportions. Without government-supported plans of this nature, there would be lower taxes resulting in more money reaching each household. This additional income could be used to finance private insurance policies such as Blue Cross and Blue Shield, who have, in the past, used good judgment in the payments for care of their subscribers. In addition, the government could finance premiums for those unable to provide for themselves. The result would be fewer rules and regulations, less red tape and paper work, and a medical profession free to devote themselves to the practice of good medicine.

What do we, the medical profession, do to reverse the trend toward socialism and return to the democratic principles for which our ancestors fought? We must resist with all our power! We must organize ourselves and prepare to fight for our rights.

First, the profession as a whole must refuse to participate in the programs already in existence by, for example, rejecting assignment of Medicare payments. This will result in placing the burden of obtaining payments from the government on the patients themselves. They will soon come to realize that Medicare and similar systems are not the panacea they had believed. We have been spoiling the public by handling their affairs for them. Most of our patients have no idea how many hours and how many bitter moments we have while dealing with their benevolent government on their behalf. It is time that we educate the American people so that public opinion can rest where it should —on the side of the medical profession.

Beyond that first step, we must not be afraid of speaking out against further involvement of the government in our profession. No sacrifice must be too great in order to keep medicine free of the dictates of any single segment of the population, including the government. None of this can be effective without the cooperation of every single physician in the country. It cannot be viewed as someone else's struggle for it belongs to each and everyone of us.

We must let it be known that we believe in the United States of America. This country is a great country because our people are a great people. We have come this far because of hard work and determination. The people, not Washington, D.C., built this country. In the same sense, the quality of medical research and medical care is better here than anywhere else in the world. We reached this point because of the hard work and determination of the medical profession, a point reached primarily through the system of private practice. We cannot allow this progress to be stifled by the advent of socialized medicine.

D.A.

* * *

DOXYCYCLINE

The oral formulation of doxycycline* has been utilized successfully for several years in the treatment of various infections including gonorrhea, urinary tract infections, and pulmonary infections.

A parenteral formulation of doxycycline, under study for several years, has recently been made available for general use and appears to be the best available tetracycline preparation for intravenous administration.

This preparation of doxycycline is relatively well tolerated by the intravenous route with a low incidence of phlebitis and local tissue irritation. Our practice has been to dilute 100 or 200 mg of the antibiotic in 250 or 500 ml of glucose or saline solution and administer the infusion over a period of two to three hours.

Doxycycline does not depend primarily upon renal clearance for elimination from the body and therefore should be safer than other tetracycline preparations in patients with impaired renal function. This, in fact, appears to be the case, and doxycycline is less likely than the other tetracyclines to induce the "uremic syndrome." Since doxycycline is conjugated in the liver, it should be used cautiously in patients with hepatic insufficiency.

While this new intravenous formulation of doxycycline is a valuable new antibiotic, it should be emphasized that few indications exist for its use. These indications include the treatment of *Bacteroides* infections, *Mycoplasma pneumoniae* infections, and systemic gonorrhea in patients allergic to penicillin. On occasion, this antibiotic might be used in the treatment of urinary tract or wound sepsis due to tetracycline-susceptible coliforms.

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*Vibramycin®—Pfizer Inc.

Parenteral doxycycline should not be employed as a broad-spectrum antibiotic for general use in septic patients.

W.J.H.

* * *

HAPPY GOLDEN ANNIVERSARY, VNA

The Visiting Nurse Association of Wilmington celebrated its golden anniversary this year. Fifty years ago the VNA's first annual report showed that 12 public health nurses had made home visits to 3172 patients. The present staff includes 14 nurses, one full and five part-time physical therapists, a part-time occupational therapist, and 34 homemaker health aides. During the last year, 20,225 nursing visits were made, 5,017 physical therapy visits, and more than 20,000 homemaker visits. Mrs. Adele Cohen, Dr. Mark Cohen's wife, is the current president, and Mrs. Dorris Schwartz the director.

The expansion of the VNA services to include the home health aides (who are trained for their jobs by the VNA) began in 1967. As can be seen, this service now accounts for almost half of all the agency's visits. However, the basic purpose under which the VNA started—bedside nursing care in the home under the direction of the patient's physician—remains the leitmotif.

B.Z.P.

* * *

Deaths

WILLIAM A. MARSHALL, M.D.

Dr. William A. Marshall, 67, died unexpectedly on October 8, 1972. He was medical director of the Emily P. Bissell Hospital at the time of his death.

Dr. Marshall was a native of Baltimore, a graduate of Lincoln University, Oxford, Pennsylvania, and Howard University, Washington, D.C., receiving his M.D. from the latter. Dr. Marshall entered private practice, but left this when he contracted tuberculosis. Upon his recovery in 1947 he came to Delaware to work the remainder of his life with tuberculosis patients. He became a leading authority on chest diseases. Dr. Marshall became a staff doctor at the local tuberculosis institution in 1959 when racial barriers were struck down and was the first black man to be made medical director of a state institution in Delaware.

Dr. Marshall is survived by his wife, Mrs. Helen A. Marshall; a son, William A. Jr. of Baltimore; and his brother, Thurgood Marshall, a Justice of the Supreme Court of the United States.

* * *

NOW IT'S THE LAW

Continued from page 369

Perhaps the Foundation, which already has its own by-laws and seal of incorporation, would be the logical vehicle by and through which we can comply with the law of the land. The PSRO could become its primary aim and the delivery of health care its second objective.

When all views have been sifted and refined and a decision reached as to the direction in which we should go, I fervently hope that all physicians will back the Board of Trustees' decision on the development of a PSRO for Delaware physicians.

Joseph A. Elliott

Courses in Cardiology

The American Heart Association Council on Clinical Cardiology is offering two three-day courses — "A Personalized Approach to the Prevention of Coronary Atherosclerosis," February 6-8 at the Louis B. Mayer Medical Teaching Center, Los Angeles, California, and "Cardiovascular Emergencies," March 1-3 at the Shreveport Convention Center. For information write: Mr. George E. Stewart, Jr. American Heart Association, 44 East 23rd Street, New York, N. Y., 10010.

Cancer Conference

The American Cancer Society is holding a National Conference on Urologic Cancer, March 29-31 at the Shoreham Hotel in Washington, D. C. Write to Sidney L. Arje, M.D., National Conference on Urologic Cancer, c/o American Cancer Society, 219 East 42nd Street, New York, N. Y., 10017.

Surgeons' Annual Meeting

Pierre L. LeRoy, M.D., President of the American College of Surgeons, Delaware Chapter, announces that the Chapter's Annual Meeting will be held in the Delaware Academy of Medicine, Tuesday, February 27th at 7 p.m. (dining room). The speaker will be Doctor Teruo Matsumoto from Hahnemann Hospital in Philadelphia, Pennsylvania. His topic is to be "Acupuncture and Surgery."

* * *

CLASSIFIED AD SECTION

Advertisements under the Classified Ad Section are charged at the rate of 30 words or less, set solid. One insertion $4.00. Call the Journal office, 658-7596 for further information or placement. All advertisements are payable in advance. The Editorial Board reserves the right to edit copy. Closing date for new copy is the first of the month for inclusion in the current issue.

Classified advertisements of a professional nature are free to members.

OB-GYN: Completing Fellowship in Reproductive Endocrinology. Desires group practice. Licensed in Michigan. Available July '73.

PEDIATRICIAN: New York license. Board Eligible. Graduate of College of Medicine, Chun Nam National University, Korea, 1965. Available July, 1973.

ORTHOPEDIC SURGEON: Board Eligible. Completing Fellowship in Hand Surgery at Detroit Medical Center. Interested in hospital, group or solo practice.

GENERAL SURGEON: Completing Surgical Residency at Mayo Clinic. Available July, 1973.

GENERAL SURGEON: Delaware license. Graduate of University of Santo Tomas, Manila, Philippines. Completed 1-year rotating internship in Queens, N.Y. and 4-year approved surgical residency at Brooklyn-Cumberland Medical Center, Brooklyn, N.Y. (1971). Board Eligible.

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At Blue Cross and Blue Shield, we're trying to find out.

We think that home care programs — programs that enable patients to leave the hospital and recuperate at home — might solve a couple of problems. By saving money, freeing hospital beds, and maybe helping people get better faster because they're in familiar surroundings.

We think that "in-and-out" surgical facilities in hospitals — where a patient can receive many kinds of surgery and be out the same day — might save a lot of time, expense, and beds, too.

We think hospital-based extended care facilities — where a patient who still needs bed care can get it, but get less intensive services at lower cost — might be a good idea, too.

And we think that projects that tie these and other services together with regular hospital and physician care, in a comprehensive package, might be worth exploring.

But nobody really knows the answers.

We can't be sure without experimenting. So we are, by helping with "pilot" projects in some area hospitals — making benefits available to many of our subscribers who receive home care, or extended care, or "in-and-out" surgery in these facilities. And by assisting local medical groups in evaluating comprehensive health programs. If these experiments work, they'll help medical care close the gap with modern medical science. You could see a whole new kind of Blue Cross and Blue Shield coverage. Someone has to try. Who better than Blue Cross and Blue Shield?

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